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Original Articles.

NEPHRORRHAPHY.*

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The operation of nephrorrhaphy dates back only to 1881, when Hahn,[1] of Berlin, introduced the operation as a substitute for nephrectomy in the treatment of movable kidney. In this country the subject has been ably discussed by Edebohls,[2] who perfected and published a systematized technique for the operation.

Senn[3] presented a method of anchoring the movable kidney, the essential feature of which consists in the substitution of gauze packing for sutures to hold the kidney in place until the formation of granulation tissue shall cause permanent adhesions of the kidney in its new position, the wound being left open to heal by granulation. Deaver[4] has adopted the principle of Senn's operation, rejecting sutures in favor of gauze packing and a granulating wound. Morris[5] may be considered the most prominent advocate of the operation in England. He employs silk sutures to fasten the kidney to the cut edges of the transversalis fascia.

Tuffier, of Paris, believes that the proper capsule of the kidney, being smooth, thin, little resisting and but slightly vascular, is not likely to form firm attachments to the muscles of the back, and for this reason recommends the stripping off of the proper capsule from the free border of the kidney, so that the kidney substance proper may come in direct relations with the muscles of the back. Edebohls has adopted this principle in his technique.

The writer adopted at first the technique of Edebohls.[6] By eliminating some of its features and substituting others, he has developed the technique which will be discussed in this paper.

The two papers of the writer referred to above, discuss the general subject of movable kidney, its causation, symptoms, diagnosis and treatment. Seven years of careful study devoted to the subject have served to confirm most of the views advocated in the previous papers, which are well represented by the following summary:

"Movable kidney is a very common condition among women. I find it in one-fourth of my own patients. Both kidneys are movable in about one-tenth of the cases. The underlying cause of movable kidney is a deficiency of adipose tissue, especially in the perirenal region. Tight lacing, multiple pregnancies, and falls occasionally act as contributing causes.

"The symptoms of movable kidney are both reflex and local. The reflex symptoms of movable kidney are those at times of neurasthenia, irrespective of its cause. In other cases nervous dyspepsia, palpitation of the heart, distension of the abdomen with gas, and neuralgic areas are the symptoms complained of. Patients are usually unable to lie on the side opposite to the movable kidney. The local symptoms are a sense of weight or bearing down, soreness in the kidney region, attacks of pain similar to renal colic, and in rare instances symptoms of strangulation due to torsion of the vessels of the kidney.

"Movable kidney may be suspected when its rational symptoms are present, but the diagnosis must be made by the physical exploration. This should be made with the patient in a standing position. The diagnosis can be made with the patient lying on her back only in long-standing cases, where the displacement is extreme, as usually in that position the kidney slips up under the margin of the ribs. In many cases movable kidney gives rise to no symptoms and therefore does not require treatment. The rest cure promises to be efficient in cases of slight degree, as the kidney returns to its normal position while the patient is lying on her back, and the increase in fat which the rest cure usually brings about should effect a cure. The rest cure used in cases of long standing, with extreme displacement of the kidney, will improve the general condition of the patient, but will not improve the local trouble. Nephrorrhaphy is a simple and safe operation, which should be done in the cases having well-marked displacement, that is, three inches and upward. The more marked the local symptoms the more necessary is the operation. The reported cases indicate that the results are permanent."

The chief purpose of this contribution is to report the experience of the writer with nephrorrhaphy in full to date, and to consider the final results secured in the older cases, as well as the immediate results of the more recent ones, in relation to the technique which should be selected in performing this operation. This experience embraces forty-three operations done for movable kidney. The first patient operated on had both kidneys movable, and each was operated on at a separate sitting, so that the total number of patients operated on is forty-two. Of these, two died, which on superficial inquiry would indicate that the operation has a definite mortality. The first case, however, was known to have chronic Bright's disease before the operation, but suffered so much pain in the movable kidney that in spite of the existence of chronic interstitial nephritis the operation was undertaken. This patient died suddenly on the fifth day, when apparently in good condition, either from pulmonary embolism or from angina pectoris. No autopsy was permitted. The second patient did perfectly well for about a week, when she bled to death from an ulcer of the stomach, the presence of which was unsuspected. In considering

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the inherent mortality of nephrorrhaphy in patients otherwise sound both of these cases should be excluded.

Of the forty women remaining, so far as is known to the writer, all of them are cured, mechanically speaking. In not a single case has the kidney again become loose. The kidney having the greatest degree of mobility is one in which a double nephrorrhaphy was done in a very anemic and much prostrated woman, in which the operation on the left kidney was followed by suppuration, necessitating the removal of the fixation sutures. This kidney has a range of mobility of perhaps an inch. This fact has a definite bearing on the choice of technique, as to whether sutures are to be employed and primary union obtained, or whether granulation and possible suppuration is to be invited.

Of the forty patients, twenty-nine may be considered cured. They so reported when last heard from, and most of them have been seen or communicated with quite recently. In two the result is unknown. In four, symptomatically speaking, the result was a failure. In five the patients, while benefited, were not cured, and may be considered as improved.

This percentage of cured cases is most gratifying, and demonstrates the value of the operation in properly selected cases. Granted that a proper technique is employed, it is the opinion of the writer that the percentage of cured cases as contrasted with the failures or partial successes will depend on the discrimination with which cases are selected for operation. In by far the majority of cases the symptoms are neurasthenic, or else reflex in character, and unless care is exercised the symptoms will be attributed to a movable kidney, when its presence is merely a coincidence.

The diagnosis of movable kidney is usually so simple and exact that it is within the power of every practitioner to become expert in palpating this organ when displaced. Movable kidney is almost never present in fat women, the only exception being fat women having flabby abdominal walls; hence, the conditions are favorable for making a diagnosis. The following from the writer's original paper contains exact rules for diagnosis:

"For seven years, in my practice, I searched in vain for movable kidneys. During that time I followed the method of examining the patient when she was lying on her back. I understand now why I failed to find the movable kidneys. It was because that in this position they slipped up above the margin of the ribs. In my entire experience I have felt not more than half a dozen kidneys with the patient lying on her back. These were cases of extreme displacement of long standing.

"It occurred to me that by examining the patient standing the diagnosis could more easily be made, and experience has shown that this was the one thing lacking in my previous investigations. The examination should be conducted as follows: The patient's clothing should be loosened, all bands about the waist unfastened, and the skirts supported by a nurse or assistant, so that the patient will not be embarrassed with the fear that her clothing will fall off. She should then stand before a table or desk of convenient height—about 30 inches—with the examiner seated on her right. The patient then bends forward from the hips, and supports some of her weight by resting her hands on the table. She is directed to respire regularly, care being taken to relax herself thoroughly during expiration. The examiner's left hand is placed against the lumbar region posteriorly, and his right hand in a corresponding position in front of the kidney. By a conjoint manipulation the region between the two hands can be carefully palpated, and, if present, the kidney is easily recognized. The points to be looked for are the shape and size of the kidney, and the fact that it can be readily displaced upward beneath the margin of the ribs, and that it will return to its former location as soon as the examiner's hands no longer support it. When the kidney is compressed, as a general rule, the patients complain of tenderness or pain of a peculiar character, and often make the statement that the pain causes them to feel faint or somewhat nauseated."

Seven years' experience has but emphasized the value of the foregoing rules. It has also taught that in a definite percentage of cases the diagnosis can be made with the patient in the recumbent position. Much more skill, however, is necessary to make the diagnosis in this position, as the patient must first cough or strain the kidney down below the margin of the ribs, and it must then be seized by the palpating hand. The disadvantages of examining in the recumbent position are that many cases will be overlooked, that only the more marked cases will be recognized, and that the degree of displacement can not be estimated nearly so well as with the patient in the standing posture.

The technique of nephrorrhaphy as performed by the writer may be described as follows: The patient is placed prone on the table. The Edebohls' air cushion is placed beneath the epigastrium, and should be accurately located; if too low it will tend to displace the kidneys under the ribs, if too high it does no good. The incision is made along the external border of the quadratus lumborum muscle from the twelfth rib toward the ilium. It should be about 3 inches in length. When the muscles are reached they should be separated as far as possible rather than cut, in order to preserve the integrity of the posterior wall of the abdomen. It is usually necessary to ligate cut vessels, as these are much larger than in the anterior abdominal wall. Care should be taken to avoid wounding the iliohypogastric nerve, which runs through the field of operation. If this be cut, it sometimes causes annoying paresthesia in the region of its distribution. When the muscles have been well separated, the subjacent fascia is divided, which exposes the perineal fat. This is drawn outward and downward, and torn through as near the spinal column as convenient, and also at as high a level in the wound as convenient, the object being to deflect this layer of perirenal fat outward and downward, so that at the conclusion of the operation it will form a cushion below and to the outside of the sutured kidney. After the fatty capsule is torn through, the kidney, as a rule, comes into view. If it does not, it is either because it is below the field of operation, or else it has slipped up under the ribs. When the kidney is very movable and the Edebohls' pad is used, not uncommonly the movable kidney is displaced downward toward the pelvis. When the kidney is brought into view, it should be gently grasped by the hand and the fatty capsule detached from it by the fingers of the operator. If the kidney is too firmly pressed, it is apt to result in the formation of a hematoma. The kidney is teased out through the incision, and the fatty capsule is stripped off from its external border, upper and lower poles, and lateral surfaces. The region of the hilum is best not disturbed, as the renal vessels might accidentally be wounded. Three silkworm-gut sutures are passed through the lower half of the kidney at intervals of ¾ of an inch. The sutures are passed with a straight needle deeply enough to secure a good hold in the

kidney, but not deeply enough to encroach on the urinary canals. Each suture is caught in an artery-forceps. The kidney is now reposited and the wound is irrigated with salt solution. At this stage it is best to let the air out of the nephrorrhaphy pad, to lessen intra-abdominal pressure. The kidney sutures are now passed with a carrier from within outward through the lumbar muscles, the upper suture being inserted as close to the last rib as feasible. The sutures are so passed that when tied the knots are just external to the deep fascia. Between each fixation suture a chromicized catgut interrupted suture is passed to close the wound in the lumbar muscles, and additional sutures are passed below the level of the lowest fixation suture to close the lower part of the incision in the lumbar muscles. In tying the sutures the corresponding catgut suture is tied first to close the wound, and then the silkworm-gut suture is tied, care being taken to make it snug and not tight, as the function of the silkworm-gut suture is to hold the kidney, but not at all to close the wound of the loin. Should these sutures be employed to close the wound in the loin, it might well defeat the object of the operation by causing the sutures to cut through the friable renal tissue. When all of the interrupted sutures have been tied, the subcutaneous fat is closed by a running catgut suture, and the skin is closed by an intracuticular catgut suture and the usual dressings are applied. It has been stated that the perineal fat is divided on the inner and upper aspect of the kidney, and that it is deflected outward and downward so as to form a cushion and a support upon which the kidney is to rest. This disposition of the fatty capsule is insured by drawing it outward and downward through the wound as the kidney sutures are passed through the external side of the wound. Each silkworm-gut suture is passed through the fatty capsule before it enters the muscle on the external side of the wound, and this is so arranged that the free portion of the fatty capsule is deflected to the outside and below the kidney. When the sutures are tied they not only fasten the kidney to the abdominal wall, but also hold the fatty capsule in its new position.

This technique in essentials has been employed in the last forty of the forty-three nephrorrhaphies. In the first three cases, in which the Edebohls' technique with silkworm-gut drainage was employed, two of the cases suppurated. In the last forty, one suppurated frankly, and in one a silk ligature was accidentally left with a long end hanging out of the wound, which caused a localized infection involving one deep suture. The results of the technique in obtaining primary healing of the wounds is very gratifying. In none of the cases in which primary union was obtained have the buried silkworm-gut sutures given trouble. So long as this experience continues there will be no occasion for substituting other suture material.

The use of a non-absorbable suture for the fixation of the kidney has been objected to on the ground that it might lead to the formation of a stone in the kidney. This objection is purely theoretical, as no such case has been reported; moreover, it is contrary to the teachings of comparative pathology. The suture soon becomes encapsulated in a scar tissue-sheath, which, so far as the functionating structure of the kidney is concerned, makes the suture extrarenal. *A priori* the greatest objection to a non-absorbable suture in nephrorrhaphy is, that if the kidney should again become loose, each suture might cut its way through the cortex of the kidney, in this way making linear scars to correspond with the original sutures. This objection is so far theoretical, and should it take place, the results will probably be of small moment.

The foregoing results are strong arguments against the allegations of those who oppose this or similar technique in nephrorrhaphy. First, it is alleged that the kidney will not remain in place if sutured; second, that if permanent sutures are employed they will give rise either to suppuration or to the formation of calculi. The results speak for themselves. The technique has the further advantage that primary healing of the wound is obtained, that the patient is not annoyed by dressings, or even by the removal of sutures, and at the end of three weeks she is able to leave her bed.

In this connection a few remarks are in order concerning the various steps in technique which are employed by different surgeons, which it seems to the writer are either unnecessary or undesirable. 1. The incision of the proper capsule of the kidney and its separation over a greater or less area from the external border of the kidney, as practiced by Tuffier, Edebohls and others, would seem to be unnecessary. The only advantage claimed by its advocates is that it favors the permanency of the fixation of the kidney. A distinct objection to the procedure is that it promotes capillary oozing from the renal vessels. By the formation of clots in the depths of the wound suppuration is promoted. On the ground that it was both unnecessary and harmful it was abandoned by the writer after its employment in three cases.

2. The substitution of gauze packing for fixation sutures and the reliance on granulation tissue to fix the kidney in position, as advocated by Beinebott, Senn and Deaver, would seem to be a distinctly retrograde step. The allegations of the supporters of this latter method are in direct contradiction to the results recorded in this paper. If the latter method is to meet with general approval and adoption, it must be because its advocates can show that the results secured by it are better than by other methods heretofore employed. The following objections to the method immediately suggest themselves: The period of convalescence is much prolonged. The change of dressings when the gauze packing is removed and replaced is painful. Local infection and suppuration are invited by the very nature of the open-wound treatment, with the risks always attendant on a suppurating wound, and especially with one in connection with so important an organ as the kidney.

In conclusion, the writer would make the following recommendations:

1. Careful discrimination in diagnosis in order to separate cases in which movable kidney is a coincidence in a case of neurosis from those in which it is the cause of local and reflex symptoms.

2. Resort to the rest cure for cases of slightly movable kidney, especially in young women.

3. The employment of symptomatic treatment in cases in which the relation between the movable kidney and the nervous symptoms present is uncertain. Nephrorrhaphy should be employed in these cases only after non-operative measures have failed to afford relief.

4. The immediate resort to operation in those cases in which local symptoms, such as pain, sense of weight, or symptoms of strangulation, are present, and when the examination of the urine shows indications of congestion of the kidney, such as the presence of hyaline casts or albumin.

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NEW POINTS IN THE ANATOMY AND HISTOLOGY OF THE RECTUM AND COLON.

THE TREATMENT OF OBSTINATE CONSTIPATION BASED ON POINTS SET FORTH IN THE FOREGOING.*

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Doubtless some of the statements herein made may be a radical departure from those generally believed and accepted by the profession; however, I shall try to make no claim that can not be substantiated.

I believe it is universally recognized that the sigmoid flexure begins in the left iliac fossa, at the outer border of the psoas muscle, and that the rectum ends at the anus. The part of intestine included between these two points, therefore, constitutes the rectum and sigmoid. With reference to the point of division between these two organs, there seems to be a difference of opinion. However, we shall not discuss that question in this connection, but recognize that portion having a mesocolon as the sigmoid and the remainder as the rectum. This makes the point of division about opposite the third sacral vertebra. The sigmoid has two fixed points only—the first, its beginning where it is made fast to the ilium; the second its ending where it is anchored to the third sacral vertebra. Any further description of its position is a relative one and depends on its length, the length of its mesentery, its relative degree of distension, the degree of distension of adjacent viscera and the tension of the diaphragm and the abdominal muscles. In a collapsed state, as it is usually found in the cadaver, the sigmoid most frequently occupies the left iliac fossa and dips into the pelvis. Skiagraphs, photographs and specimens, however, show that this is not the position it usually occupies when distended or perhaps when studied clinically. As it becomes distended it rises from this position and extends toward, and often into, the right iliac fossa and frequently above the umbilicus, and in some instances to the diaphragm and under the liver—Figs. 1, 2, 3, and 4. It will also be observed that in the distended or semi-distended state the flexure is held near to and over the sacrum and the bony prominences of the abdominal and pelvic cavities, which suggests the idea that defecation may be aided by intermittingly squeezing the filled sigmoid between these irresistible bony points and the diaphragm and abdominal muscles during the act. It is maintained in this position by means of its mesentery, which surrounds the free border of the intestine in such a manner that its point of union is a little anterior to the posterior surface of the flexure. Near the junction of the rectum and sigmoid the mesenteric fibers are frequently thrown across the anterior aspect of these organs and hitched to the posterior or lateral surface of the rectum and the right side of the pelvic brim in such a manner as to more securely hold the feet of the flexure in a specific relation to each other —A in Fig. 2. When the sigmoid is distended it appears as a flexed intestine lying on a flat surface. The rectum consists of the remaining portion of this intestine—from the third sacral vertebra to the anus—and is divided into chambers or apartments by partitions extending across it at different points. These partitions or structures are known as the rectal or Houston's valves, and were first described by him in 1830. Other earlier writers evidently referred to these same structures; however, it was his paper more especially that stimulated a discussion of the subject. He described these valves as consisting of mucous membrane, cellular tissue and circular muscular fibers. Since then a few writers, like Kohlrausch, Otis and Martin, have corroborated his discoveries; while Bodenhammer, Kelsey and Mathews have denied their existence, and still others, as Allingham, Cripps and Ball have ignored them. Martin, to whom we are indebted for valuable contributions to this subject, states, after making a histological examination of a rectal valve in an adult, that: "beneath the mucosa is noticeable the heavy layer

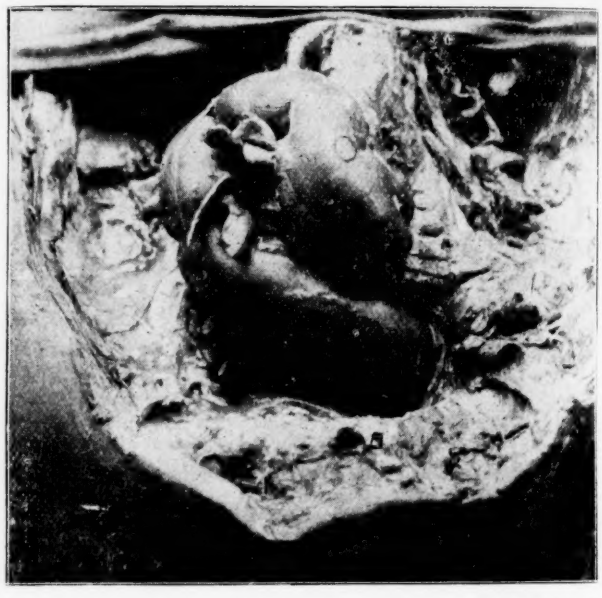

Fig. 2.—From a photograph showing the distended sigmoid flexure extending into the right iliac fossa. An incision was made in left inguinal region, sigmoid and rectum irrigated, then filled with hot paraffin. After cooling, the abdominal muscles and adjacent viscera were removed when it was photographed. *a*, Band of mesenteric fibers thrown across sigmoid and rectum at their junction; *b*, pubes.

of fibrous tissue which gradually diminishes until it is lost at the valve base. Bundles of circular muscular fibers are seen in the middle of the valve. At its base are seen arteries and veins for its special nutrition. This structural arrangement makes this organ the typic anatomic valve. The evidence of the fibrous tissue in the valve is an original contribution to our knowledge of this subject." From this it will be seen that while a few comparatively unknown men in the field of rectal surgery have corroborated Houston's discoveries, our leading authorities on this subject have either entered into lengthy discussions to deny their existence or have ignored them entirely. The position and arguments of this latter class have had much to do with molding the medical mind concerning these valves. Their treatment of them, being practically a unit in point of evidence against their existence, has naturally carried the weight of medical opinion with it. Notwithstanding this preponderance of evidence, which has existed for the last seventy years, original and experi-

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mental study has convinced me that Houston was right; that the rectal valves are veritable structures. Believing that the most acceptable manner in which to offer conclusive and impartial evidence of this fact would be through a disinterested and recognized authority, I presented to William A. Evans, M.D., professor of pathology and histology in the medical department in the University of Illinois, and the Columbus Medical Laboratory, a number of specimens of valves for histological and pathological examination and submit herewith his verbatim report. I also offer as additional evidence a number of photo-micrographs made of the sections from the valves.—Figs. 5, 6, 7, 8 and 9.

EXAMINATION OF HOUSTON'S VALVES.

Specimen 1.—Rectum of a child aged three weeks. The valves project into the lumen of the intestine for a considerable distance. The free border of this projection embraces between one-half and two-thirds of the circumference of the intestine. It is to be understood that a measure of this projection on a microscopic specimen, prepared by the usual

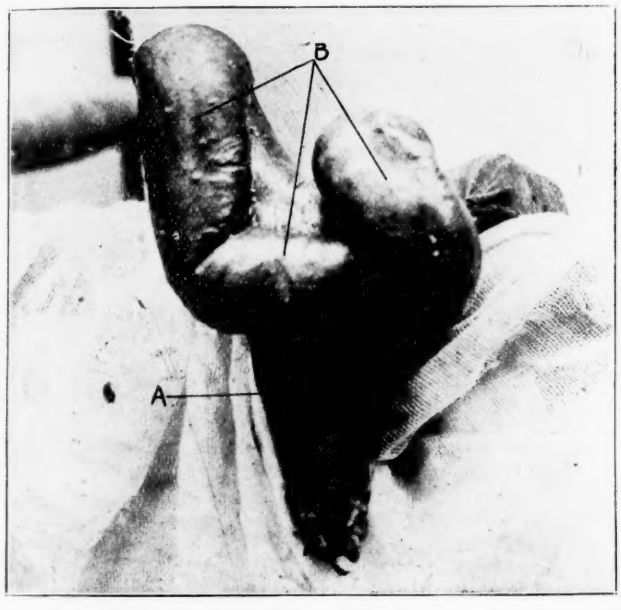

Fig. 3.—Photograph of rectum, *a*, and sigmoid, *b*, of Fig. 1, after removing from the body. Sigmoid extends into right iliac fossa, makes sharp bend anteriorly upon itself, descends and crosses junction of rectum and sigmoid at right angles.

microscopic methods, has only relative value. The maximum projection was in the lowest valve, or the one next the anus. The projection was covered by a mucosa consisting of tubular mucus-secreting glands and interglandular lymph-tissue. In some sections the mucosa was thickened over the valve, in others it was thinned. There was no uniformity except at the angles, where some thickening seemed constant. The muscularis mucosa was more prominent in the valves than elsewhere. At the tip it measured .0125 millimeters. This represented a thickening of about 10 per cent. The submucosa was composed of the usual, loosely-arranged connective tissue, almost devoid of lymph elements and containing a considerable vascular supply. Some of the changes in the submucosa found in diseased cases will be noted below.

Measurement of the submucosa away from the valves showed a thickness of .15 millimeters. The submucosa at the tip measured .475. (Measurements made on three intestines from other subjects showed submucosa away from valve, .225, .36 and .3; submucosa at tip, .75. 35 and .82.) From this it will be seen that the submucosa thickens in the valves to twice its normal dimensions. In this connection it is well to bear in mind that the preparation of the specimen will cause a condensation of the submucosa, with diminution of its dimensions. The circular muscular coat usually dips into the valves. In this specimen the thickness of the muscular coat away from the valve was .11. In the valve it measured .375. (Measurements of two other specimens showed, circular muscle away from the valve, .075 and .11; circular muscle in the valve, .185 and .25.) The circular muscle is liable to be hypertrophied in the valve. The longitudinal coat is more irregular. In this specimen it measured, away from the valve, .075; at tip of valve, .187.

Outside of the muscular tunic was a loose connective-tissue tunic containing some adipose tissue and moderately supplied with blood-vessels. This structure was composed of white fibrous and yellow elastic tissue. It ran into the valve for about two-thirds of its height and bound together the two longitudinal muscle bundles. Some fibers, and enough to almost constitute a membrane, could be demonstrated stretching across the base of the valve. These fibers can be picked up

Fig. 4.—Same as Fig. 2. Showing the rectum, *a*, and the sigmoid, *b*, with its mesentery, *c*, after being removed from the subject.

with a needle as a bridging membrane-like structure. In this layer were found lymph nodes, nerve ganglia and nerve bundles and the epithelial glands presently to be described.

Specimen 2.—Bowel from baby 2 months old. Rectum filled through the anus with a 2 per cent. watery solution of formalin. Anus closed by stitches made through surrounding skin. Body amputated at twelfth dorsal vertebra and kept in 1 per cent. formalin solution. Inferior mesenteric artery was injected with carmin. Internal iliac with soluble prussian-blue.

Two and a half centimeters from anus is lowest of valves. Circumference of intestine at this point is 6 cm. Valve occupies all of circumference except 1.5 cm. on the right side and rather posteriorly. Greatest width of valve found on left side and rather anteriorly. Greatest depth of valve is about .7 cm.; circumference of bowel at level of second valve, about 6 cm.; length of second valve along free edge is 3.5 cm.; depth of second valve at deepest point, .9 cm. This valve is so located that its deepest area is directly over that portion of bowel lumen not obstructed by lowest valve. Distance from second to third valve, 1 cm.; circumference of bowel, 2.5 cm.; above

third valve, 6 cm. Circumference of bowel at third valve is 5.5 cm.; length of free edge of third valve, 2.5 cm.; depth of third valve, 1 cm. at deepest point. Right point of attachment of third valve is exactly over point of attachment of first valve. Left point of attachment comes to posterior middle line.

Bowel was split longitudinally from a point just below the first valve to a point just above the third. Slit was along posterior surface and approximately in the median line. Now the bowel was slit longitudinally into six pieces, beginning at the posterior slit and traveling to the right, so that 1 and 6 represent the posterior surface, 3 and 4 the anterior, and 2 and 5 the lateral surfaces. A stitch was made in the upper end and in what would correspond to the left corner.

Sections of these pieces show some valves composed exclusively of mucosa and submucosa; others show the circular muscular tunic running into the valve for about one-half its length. The longitudinal coat passes across without entering at all. Others show a longitudinal muscle running well into the valve. Solitary lymph-glands are found in the valves.

Some of the specimens show a very rich nervous supply outside of the muscular layers. Large ganglion cells are demonstrable.

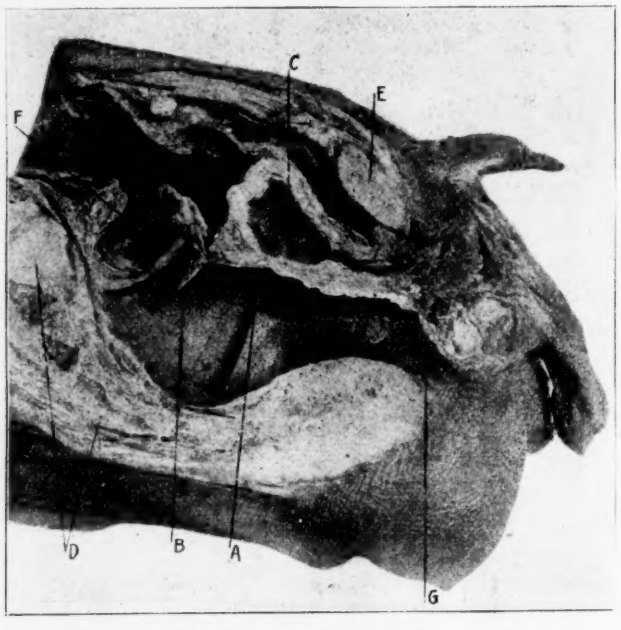

Fig. 12.—Left half of unfilled frozen section; showing the first, *a* and third, *b*, rectal valves and their relation to the bladder, *c*, sacrum, *d*, pubes, *e*, sigmoid, *f*, and anus, *g*.

It is peculiar that some of the sections show valves composed of all of the coats, and right near will be another valve composed of a smaller number of coats. Near the clearly outlined valves are smaller invaginations usually composed of a mucosa, submucosa and thick circular muscle coat.

Three other specimens were examined, giving the same results as those already outlined. The mucosa, muscularis mucosa and submucosa were invariably present. The circular muscle was generally present in the valves. The longitudinal muscle was usually present; sometimes it was absent.

Epithelial Glands.—In two of the specimens, in the loose tissue outside of the longitudinal muscle, we found an epithelial structure; one of these comes from the valve next the anus and one from the uppermost or third valve. The one from the third valve shows as nine small parallel tubes arranged in linear fashion; the other as a distinct epithelial structure, showing considerable lumen, and a wall thrown into somewhat papillomatous folds. The folds are covered by epithelium in several layers. Around this is, in some specimens, considerable lymphoid tissue. In other specimens there is considerable rather dense circularly-arranged connective tissue. We do not undertake to say what this structure is, and still less do we suggest any function for it. It is to be remembered that the anus does not come from the tip of the gut, but from a point anterior thereto. This posterior prolongation, to-wit, the part behind the anus, of the intestine is comparatively slight in certain animals. In others it is very considerable. In birds it communicates with the spinal canal as the neurenteric canal; in man, in the early stages of embryonic development, it sometimes exists as a neurenteric canal. In many of the mammalia, in the early embryonal stage, this canal is present. In many of the reptilian types and other animals bearing tails there is a very considerable posterior or caudal prolongation of the intestine.

Pathologic Specimens.—The pathologic specimens were removed from people suffering from obstinate constipation of long standing. They were clipped out in situ with one exception. In this case a tenaculum was caught behind the valve and the valve was prolapsed until it appeared outside of the anus, when a piece was snipped off. One section was from a woman who, in addition to the constipation, had mucous colitis.

Mucosa.—The mucosa showed epithelial glands containing a very large percentage of goblet cells. No other pathologic process was demonstrated in these structures. They were slightly hypertrophied. There was nothing to indicate an atrophic process in the mucosa, at least at this time. Between the glands there was an increase of tissue which was generally round cells, though some spindles and young fibers were apparent. In two of the specimens there was evident local infection with a pus organism, the focus extending into the submucosa. The muscularis mucosa was thickened.

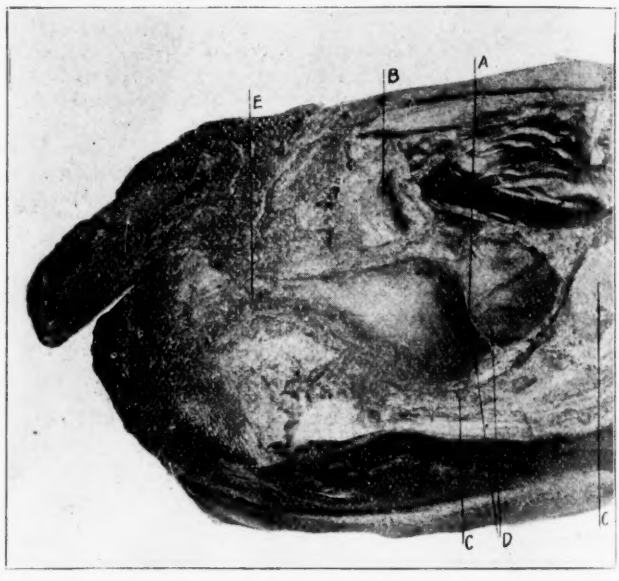

Fig. 13.—The right half of Fig. 12, illustrating the second rectal valve, *a*, and its relation to the bladder, *b*, and sacrum, *c*. Note the dilatation, *d*, immediately above and below the valve, *a*; *e*, the anus.

Submucosa.—The submucosa showed a great increase in the connective tissues. This tissue was principally of the white connective-tissue variety and was in bundles. These bundles usually ran across the long axis of the valve. The most marked is illustrated in Fig. 10. There was extensive thickening of the blood-vessel wall. This thickening was the usual type of endarteritis obliterans—C. in Fig. 11. The sections removed from the valves in live subjects showed no muscle except a very few circular fibers.

In a section made from a cadaver in which the valves were coarse and resistant (Fig. 9) the following was found: The circular muscular layer was generally hypertrophied. The longitudinal layer showed slight hypertrophy. The adventitia external to the muscle layer showed an increase of white fibrous tissue, together with an extensive endarteritis obliterans.

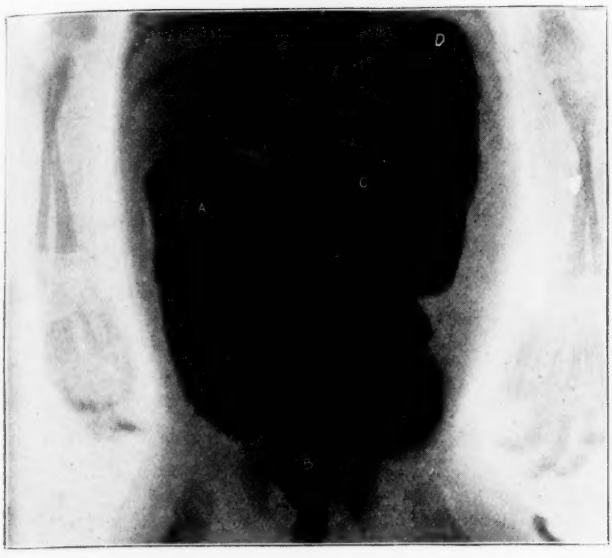

Fig. 1.—Skiagraph showing the distended sigmoid, *a*, in the right side; *b*, the rectum; *c*, transverse colon; *d*, splenic flexure. The subject was placed in the knee-chest posture, and the bowel filled from below with bismuth emulsion.

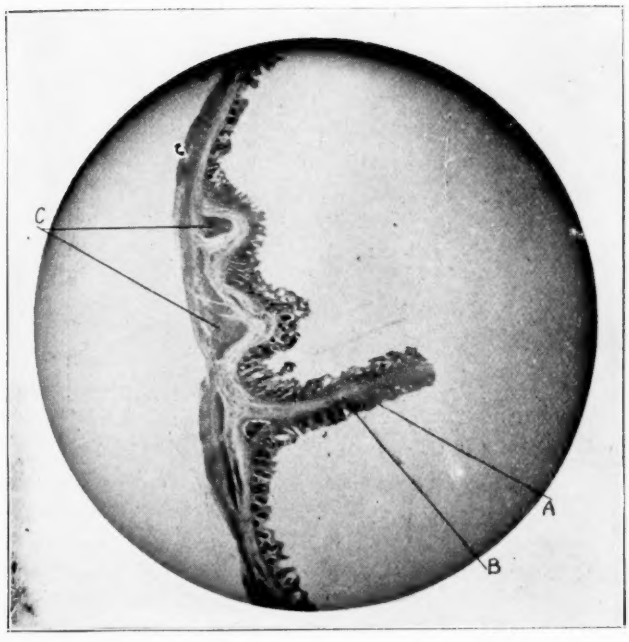

Fig. 5.—Photo-micrograph of the third rectal valve in a child two months old. It contains mucosa, *a*, and submucosa, *b*, only. Some fibers of the latter spanning its base; *c*, infoldings due to thickening of the circular muscle.

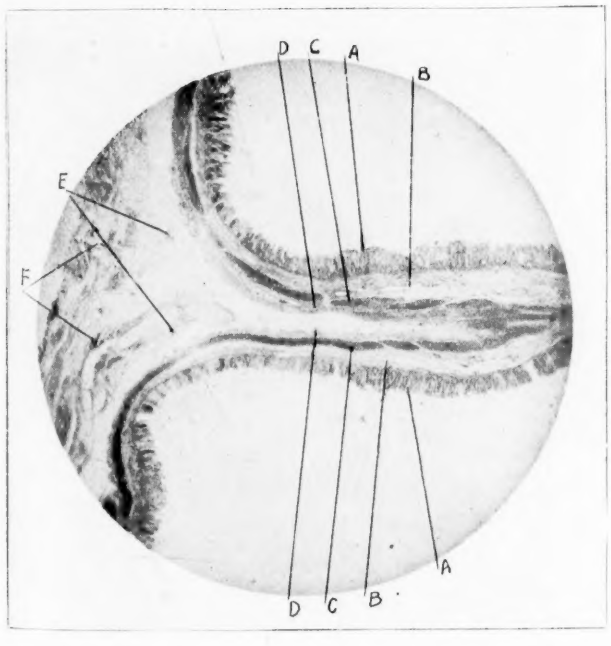

Fig. 6.—Section from the second rectal valve of a child four months old, showing the mucosa, *a*; submucosa, *b*; circular muscular fibers, *c*; longitudinal muscular fibers, *d*, and loose connective tissue, *e*, containing ganglia and nerves, *f*, external to the muscular tunics.

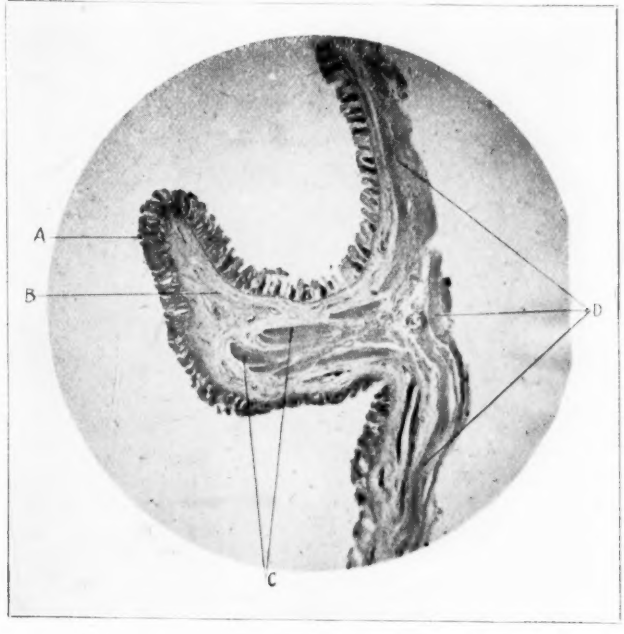

Fig. 7.—Taken from the first rectal valve of a child six weeks old. It contains mucosa, *a*; thick, dense, submucosa, *b*. The circular muscular tunic, *c*, runs into the valve about one-half or two-thirds its length. The longitudinal muscle, *d*, spans its base.

Fig. 8.—Photo-micrograph of rectal valves in child three months old. They contain mucosa, *a*; submucosa, *b*, and lymph nodes, *c*. None of the muscular tunics enter the valves.

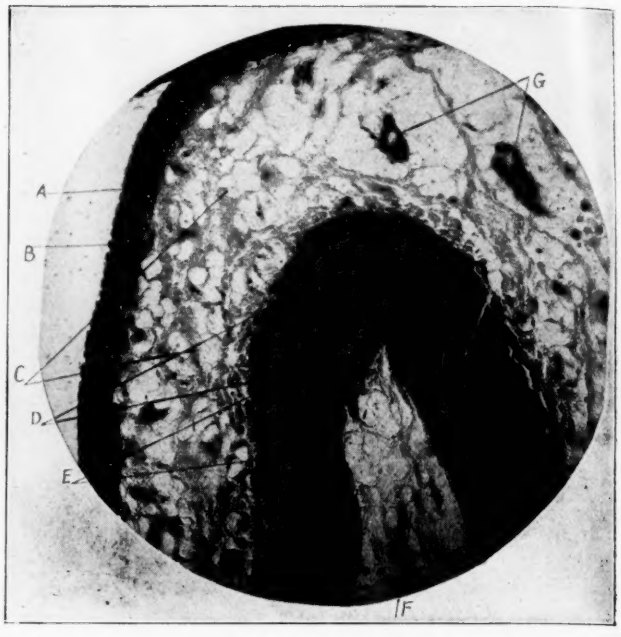

Fig. 9.—Photo-micrograph of a section of the free border of the third rectal valve of an adult. This valve was located seven inches above the anus. Its free border spanned two-thirds of the intestines' circumference. It plainly shows: *a*, the mucosa; *b*, muscularis mucosa; *c*, submucosa; *d*, circular muscular layer; *e*, longitundinal muscular layer; *f*, loose connective tissue outside of longitudinal muscle; *g*, blood-vessels with thickened walls.

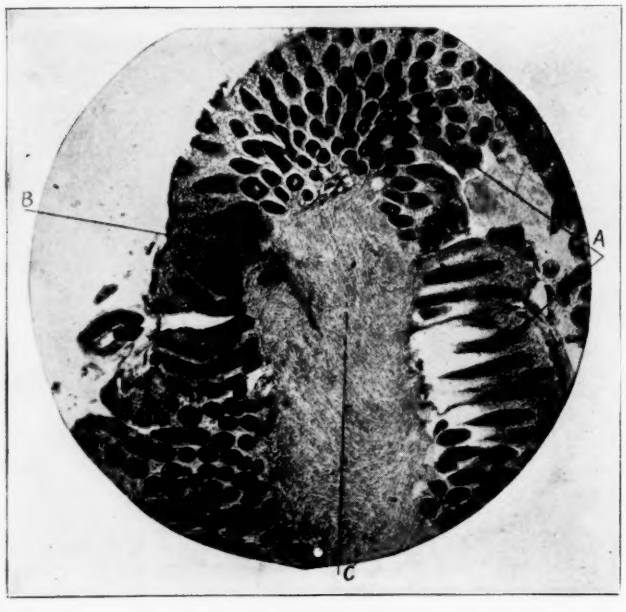

Fig. 10.—Section of rectal valve in case of chronic interstitial proctitis. *a*, mucosa showing interstitial increase between mucous glands; *b*, round-cell infiltration extending to submucosa; *c*, submucosa showing great increase of connective tissue. The fibers running diagonally across the valve. This specimen is from a male 19 years old.

Fig. 11.—Section of first rectal valve in chronic interstitial proctitis in female 27 years old. *a*, Mucosa showing some interstitial increase; *b*, submucosa showing great increase of connective tissue; *c*, blood-vessels with thickened walls.

The number of these valves varies. In fact, they are not only irregular as to number, but as to location, size, position, direction with reference to the axis of the intestine, capacity and structure. As a rule, there are three, sometimes only two; again, there may be four or even more. Usually they are semilunar in shape. Their attachment forms from one-half to two-thirds the circumference of the intestine; their margins are concave and usually directed slightly upward. They are most prominent when the bowel is distended. Their depth in the adult is from one-half to one inch, or even more.

When in regular order the lowermost, or first, one is situated on the left side about opposite the junction of the sacrum and coccyx—Fig. 12. The uppermost one is placed at the upper end of the rectum and on the same side of the intestine; while the second or middle one is situated on the right side at about the junction of the middle and lower third of the distance between the first and the third one—Fig. 13. Frequently they are irregularly situated or coarcted, which might be construed as a deformity—Fig. 14. From studies on the living, by inserting pledgets of cotton into the sigmoid and rectum and having the individual pass them, and from observations made on the cadaver, by repeatedly filling and emptying the sigmoid and rectum with water and other material, and from a study of the direction of the valves with reference to each other and to the axis of the intestine, it would seem that during defecation the fecal mass is rotated from right to left in passing through the cloacal canal. However, this is not always the case. One valve may direct the fecal current to the right and the one immediately below is situated so as to reverse the current or direct it to the left, and the next one to the right, etc. Again, their relations may be such that the upper valve directs the fecal mass immediately into the pocket of the one next below, which is situated at right angles to the bowel's axis. In this case it is necessary for the fecal mass to be literally dumped over the valve's free border. In other instances they seem to be only slightly concave and arranged so as to form a kind of regular plane for directing the fecal current; yet in others they form pockets—Figs. 7 and 8. Again, one valve may be situated almost opposite another, so that when the rectum is distended their free borders almost entirely occlude the canal—Fig. 14. Their histology also is variable. Some are composed of the duplicated mucosa, together with very thick dense fibrous submucosa, noticed by Martin, no other coats entering the structure. In some of them, in adition to the coats already mentioned, circular muscular fibers run almost to the tip—Figs. 6 and 9. In others, such as shown in Fig. 7, the circular muscular fibers run half or two-thirds the length of the valve. Sometimes the longitudinal muscle spans the base of the valve without deflection—Figs. 5 and 7. Sometimes it follows the circular muscular fibers—Figs. 6 and 9. Sometimes it splits, some fibers following the circular coat and some spanning the base. Not infrequently the muscular tunics and submucosa at the apex are hypertrophied. Sometimes the submucosa divides, part of the fibers entering the valve and part spanning its base—Fig. 5. Lymph-nodes were found in the valves and large sympathetic ganglia located external to the muscular tunics. The tissue in these valves, called cellular by Houston, fibrous by Martin, and usually described simply as submucosa, is probably one and the same structure.

TREATMENT OF OBSTINATE CONSTIPATION BASED ON POINTS SET FORTH IN THE FOREGOING.

I believe that the tortuosity of the sigmoid flexure, together with the hyperplasia, irregularity and deformity of the valves above mentioned, frequently form the principal primitive causes of so-called obstinate constipation. These conditions and obstructions favor germ infection and the development of chronic interstitial tissue. This interstitial tissue surrounds the glands in the mucosa, contracts on them and perverts their secretion, with resulting dry and hardened stools, and finally causes atrophy of the glands.

In the submucosa this interstitial tissue not only surrounds the large vascular trunks, nerves and lymphatics, and contracts and mars their function, but causes

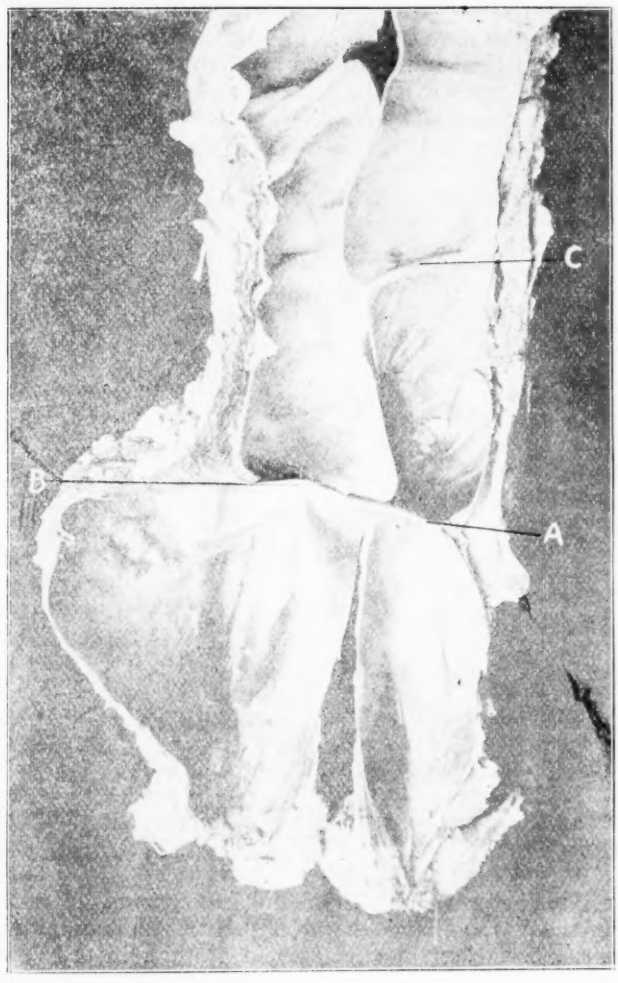

Fig. 14.—Illustrates anatomic coarctation or deformity of the first, *a*, and second, *b*, rectal valves; *c*, third rectal valve.

loss of pliability in the submucosa, which impairs the free movement of the mucosa over the muscular tunic. It also causes loss of flexibility in the muscular tunics and muscular insufficiency, and as a result of these and other pathologic conditions the valves are changed from a physiologic intermittent obstruction to a pathologic and continuous one. The intestinal wall is frequently pouched and thinned immediately above the base of the valve and hypertrophied opposite the valve's free border. These pathologic conditions seem sooner or later to result in obstinate constipation or obstipation and its results. The diagnosis of the obstruction offered by these valves is made by the symptoms of the obstipated patient and by instrumental inspection.

Symptoms.—The patient is the subject of more or less obstinate constipation; he may have a daily evacuation, but it is unsatisfactory; he experiences a sensation after defecation as if feces still remain in the rectum; he may have a desire to defecate, which requires a labored and straining effort to accomplish the act, or he may tell you that he never has a desire to do so and believes his bowel would never move unless he takes some form of physic or an enema. In the former condition it is usually the first or second, or both valves that are involved; while in the latter it may be the uppermost one only that is at fault. In time, he has occasional attacks of diarrhea, or diarrhea alternating with obstinate constipation; also, the symptoms of so-called intestinal autointoxication and neurasthenia. The valve being an almost non-sensitive organ, the patient rarely refers his sufferings to this region; yet, in some instances, he may complain of pain and aching in the sacral and lumbar region and a heavy sensation in the pelvis and pains extending down the legs.

Instrumental Inspection.—This requires that the

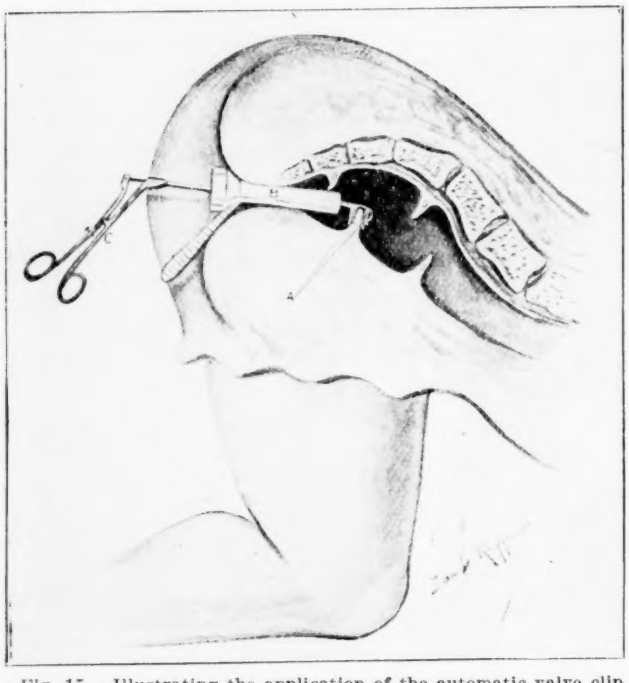

Fig. 15.—Illustrating the application of the automatic valve clip, *a*, to a rectal valve; *b* is the speculum, *c* the clip applicator, and *d* the rectal valves.

operator be provided with special instruments designed for the purpose and that the patient be maintained in the knee-chest or proctoscopic posture, in order to gain the assistance of atmospheric inflation. For obtaining this position I have had constructed a specially designed table armed with a bracket, light-condenser and reflecting miror for throwing the light on the field of inspection. The instruments necessary for this examination consist of a set of tubular specula of various lengths and diameters, fitted with glass caps and bulb for inflating the bowel when necessary. With the patient in the proctoscopic posture, the speculum is well anointed with vaselin, grasped with the full hand and gently introduced. The obturator is then removed and the light so adjusted as to illuminate the bowel. By intelligently manipulating the speculum and light, you at once command a view of the various chambers and valves, and observe the degree of rectal distension, the number of valves, their relation to each other, and the relative size of the various chambers. In the next step, note the character of the mucous membrane, whether edematous, swollen or atrophied, moist or dry, red and inflamed or pale; then compare its relative characteristic in each chamber and over each valve. Should atmospheric pressure not produce sufficient inflation, then effect this artificially, by means of the insufflator. The next step is to test the elasticity of the valves, which is done by means of an angular hook. A healthy valve is readily effaced by means of this instrument. If the valve is hypertrophied or stiffened from other causes it will not be effaced and will interfere with normal defecation. Unfortunately, the condition of these structures is rarely noted until they are in a chronic pathologic state, which changes them from a physiologic intermittent obstruction to a pathologic and continuous one. This is probably due to compensatory hypertrophy of the bowel immediately above the valve, which prevents the early development of noticeable symptoms of obstipation.

When, from interstitial inflammation or other reasons, these valves become pathologic or are the cause of obstinate constipation, noted by Martin, then the question of relief is to be considered. After using the cautery, knife and scissors, and having one case of peritonitis and another of alarming hemorrhage following the cutting operation, notwithstanding I had

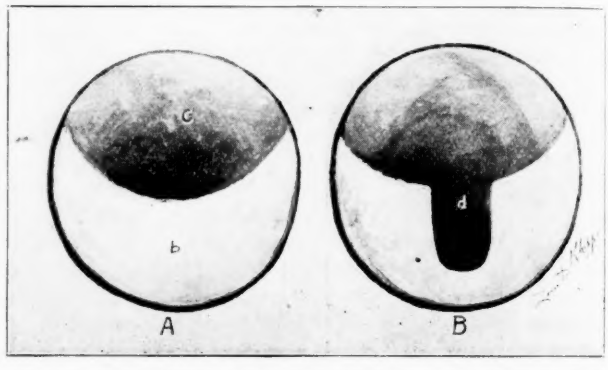

Fig. 16.—*A* illustrates the rectal valve, *b*, as it appears when looking through a tubular speculum, with the patient in the proctoscopic posture; *c* represents the lumen of the bowel as seen above the free border of the valve; *B* showing appearance of valve after a section, *d*, has been removed with the clip by pressure necrosis.

been able to give a great deal of relief to sufferers of obstipation, I became very chary about employing the knife on these cases, which led to the development of an instrument with which these structures can be divided with the same clinical result and practically no risk to the patient's life. The little mechanical device which I herewith show you is the product of that effort, and is known as an automatic valve clip. It is made of spring steel, and consists of a permanent and movable plate. To apply the clip the patient is placed in a proctoscopic posture; a tubular speculum is introduced, the clip made fast to the clip introducer, carried through the speculum and applied to the pathologic structure to be divided—Fig. 15. All instruments are then withdrawn. The clip is retained in position by means of its spring and automatic action. The section grasped is destroyed and removed by pressure necrosis, leaving a permanent division of the valve—Fig. 16. The introducer is made with a reversible handle.

The writer is indebted to Mr. Zan D. Klopper for drawings and charts; Mr. E. Soegaard for photographs; Dr. Carl Theodore Gramm for photo-micrographs, and to the Mica-Plate Static Machine for the skiagraphs.

Columbus Memorial Building.

DISCUSSION ON PAPERS OF DRS. WYETH AND PENNINGTON.*

DR. J. P. TUTTLE, New York City—I am quite sure that the Murphy button does not produce any ill-effects when lost in the intestine, as I have had four or five such cases without any bad results whatever. I think the title of Dr. Wyeth's paper is rather misleading, since we are in the habit of looking on the fistula as a pathologic condition. I think the paper would better have been entitled "permanent artificial anus," because that is what he attempts to produce. We must clearly distinguish between an artificial anus done for temporary purposes and one which is desired to be permanent. Where we do the operation for a temporary purpose so as to aid in the treatment of inflammatory condition Dr. Wyeth's method is not applicable, but where we want to excise the rectum we want as much of the colon as we can get and we must have all of the tissue necessary for making a wide dissection. The long flap renders future closure very difficult. With all due respect to those who say there is no danger in resection of the gut I find there is a death-rate of not less than 31 per cent., and any method which requires the entering into the peritoneum for the closure of an artificial anus becomes too dangerous to be used as a simple preliminary. We may, therefore, lay aside this operation so far as a temporary anus is concerned. As to a permanent artificial anus, here we have an entirely different matter to deal with. Dr. Wyeth has struck the key-note when he says he desires to prevent the continual discharge of fecal matter, as this is what is most objected to by the patient. It makes the man unfit for anything, because he knows not the time when that distressing discharge will come out all over his abdomen. Many methods for overcoming this objection have been instituted, and I think the best is by Bailey, of London. Dr. Wyeth's operation is applicable to any of these methods, but the technique should be carried further and we should endeavor to develop a sphincter as well as make an opening that will control the artificial anus. Bailey's operation consists in drawing the muscle out, making the ordinary incision through the skin, dividing the fibers of the external oblique muscle, not by incision but by careful dissection, then dividing the internal oblique fibers by the same method, cut the transversalis, open the canal and drawing out a loop of intestine. The internal oblique is split laterally and a loop is passed through the laterally-split fibers and brought out to the original opening in the external oblique. On a level with Poupart's ligament a second opening is made and loop brought out, a glass rod being used if so desired. I pack and suture the abdominal wall, the intestine being brought out from two to three inches below the point where it comes out from the deeper walls of the abdomen so that it lies flat on the external oblique. In Bailey's method you can apply a firm but soft compress which will absolutely occlude the intestinal canal and prevent any leakage. I can speak from experience that patients can go about their business without any escape of fecal matter and they can not even pass gas without loosening their compress. If we can adopt the method which Dr. Wyeth has demonstrated and can in this way succeed in providing for the accumulation of fecal matter in the intestinal canal we shall have accomplished one of the greatest boons to mankind. The time is coming when artificial ani are going to be much more in vogue than they are at present, and we shall soon recognize that certain malignant conditions which we have attempted to remove can be successfully accomplished with greater safety to the patient than by excision. When such a method is known and it is proved that the patient is made comfortable, operation will no longer be refused. I heartily approve of Dr. Wyeth's method, although I do not know his reasons for never using a glass rod. Out of twenty-four operations for these conditions I have used the rod twenty-one times and in only one of my last seven did I put in a suture. I have never had a prolapse of the small intestine nor any breaking away. I want to say that all of the deaths which Dr. Krips had in his forty-five cases were due to the sutures giving way and the intestine dropping back into the abdominal cavity. It takes eight or ten days before union between the intestine and the skin occurs and sometimes longer for firm enough union to take place to prevent the patient breaking it loose. I remember in one case my assistant actually saw the break occur on the ninth day in a case of right-sided colostomy.

As to Dr. Pennington's operation, we must acknowledge that he is doing excellent work in this direction, and his work speaks for itself. I have not the time to discuss this question of valves, but the time is coming when we can no longer split hairs as to whether these are valves or mucous folds. There is an anatomical formation that we must recognize, and every man who has used the sigmoidoscope has often seen these valves. It is not a question as to whether or not they exist, but as to their influence in health and in pathologic conditions. Are they the cause of constipation or obstipation? What harm do they do in disease? What do they do in normal health?

DR. D. W. FINLAYSON, Des Moines, Ia.—I recently had a case in which the sigmoid lay on the right side, and obstinate constipation of long standing was caused thereby. It measured fully 22 inches in length and I am quite sure the valves the author of this paper mentioned existed, and had tended to produce the constipation. I am also inclined to believe these valves seriously interfere with free defecation when they are unusually developed.

DR. T. C. MARTIN, Cleveland, Ohio—As is generally known, six years ago I first employed the method which has been presented this morning by Dr. Pennington. With a few minor exceptions, the author has corroborated my findings. He has called your attention to the fact that the distended sigmoid flexure is usually found on the right side, to which fact I called your attention in 1897. In 1862 Dr. Jacobi called your attention to the same thing, and in 1850 Dr. Nélaton referred to the same thing, but this information has been of no practical clinical advantage. I desire to refer to the clinical significance of the position of the sigmoid flexure and to endeavor to impress on you the necessity of making a differential diagnosis between its dilatation and hyperemia and chronic catarrhal appendicitis. After five years of clinical research, I reported to this Section my observations on the surgery of the rectal valve, and I now wish to present certain conclusions based on this experience: 1. What is called stricture of the rectum is hypertrophy of the rectal valves. 2. Two or more of these valves, infiltrated with lymph, constitute what is called benign tubular stricture of the rectum. 3. Valves may be congenitally so situated, or may develop in such close anatomical relation, that they may form an obstruction without there being any disease. It would be of importance in this connection to closely scrutinize the rectal valve in those cases which are often called idiopathic dilatation of the colon. Dr. Pennington had not the time, perhaps, to call your attention to the symptoms of hypertrophy of the rectal valve. Straining at stool during the passage of solid feces is usually present, while the most common complication is dilatation and hyperemia of the sigmoid flexure resulting in auto-intoxication. The obstruction due to hypertrophy of the rectal valve may be relieved by a simple surgical operation which, in skilled hands, may be done with absolute safety, for, by the modern methods now employed, the valve may be seen as readily as is the finger on your hand. There is therefore no danger in the hands of a properly trained surgeon of perforation of the rectal wall, nor of secondary hemorrhage. A man who is not properly qualified, who has never seen the operation and who, after twice trying it, condemns it, does so unjustifiably.

DR. W. R. EVANS, Chicago—I know that Dr. Pennington has given Dr. Martin credit for his valuable work. Lack of time in which to read the paper in full prevented this fact from appearing.

DR. J. R. PENNINGTON, closing the discussion—We have appreciated Dr. Martin's work and have endeavored to give him full credit for the same. There were two or three points in his remarks, however, which we feel deserve special notice:

1. Houston, in studying the gross and minute anatomy of the rectal valves, filled the bowel *in situ* with spirit in order to harden or fix them. Martin, for the same purpose, filled the bowel *in situ*, using paraffin followed by alcohol. In our histological studies we used formaldehyde to fix the valves *in situ*. In studying the gross anatomy of the valves and the various

* Dr. Wyeth's paper appeared in last week's JOURNAL.

positions of the sigmoid, under different degrees of distention, we used paraffin, bismuth emulsion, formaldehyde solution, alcohol, water, freezing and air. In some of the specimens we used nothing. Such observations, especially those on the sigmoid, could not have been made with paraffin followed by alcohol in the manner which Martin used these agents.

2. Many writers and observers have reported cases and called attention to the sigmoid being found in the right side, but if Martin, Jacobi or Nélaton has ever offered a theory similar to that expressed in my paper, as to why this is true, and the probable advantages gained thereby, I have failed to notice it in literature.

3. Houston, seventy years ago, described the structure of the rectal valve as consisting of mucous membrane, cellular tissue and circular muscular fibers. Martin's observations evidently were the same, except that the tunic which Houston described as cellular tissue, Martin says is fibrous.

We found the valves to be more irregular in structure, some containing mucosa and submucosa only; others had these and the circular fibers in addition, and still others contained mucosa, submucosa, circular muscular fibers, and a part or the whole of the longitudinal coat. We also found the valves to contain lymph-nodes, and in the loose connective tissue external to the muscular tunics we found large ganglia and nerves. In the pathological specimens we found dense fibrous tissue. Hence, we do not see how Martin claims that our findings, other than those stated in our paper, corroborate his, as he claims to have made one discovery only, that of fibrous tissue in the valves. This is probably the same structure referred to by Houston as cellular tissue. On the one hand, cellular tissue is the antecedent of the fibrous variety; on the other, in Houston's day the term cellular was used in a way that would be considered loose to-day.

4. He stated that there was no danger in the operation in skilled hands. To this we must dissent. We understood him to say, in a discussion before the American Proctological Society at Washington, in May last, that there was danger of perforating the bowel in transfixing the valve's free border, and with that we do agree. The intestinal wall is very thin, and the slightest move on the part of the operator or patient is liable to be followed by a fatal puncture of the bowel. After operating a number of times and having one case of peritonitis and another of hemorrhage, we began to look on the operation with fear and this led to the development of the automatic valve-clip. With it these structures can be divided by pressure necrosis, with the same clinical results and with what seems to us little or no danger.

COLITIS, CONSTIPATION AND APPENDICITIS: THEIR ETIOLOGIC RELATIONS.

WITH A CONSIDERATION OF THE VALUE OF INCISION AND DRAINAGE IN CERTAIN FORMS OF APPENDICITIS*

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FORT WAYNE, IND.

I desire first to direct attention to the question of etiological relationship between constipation, colitis and appendicitis.

My attention was first attracted in this direction by the following case, seen by me over four years ago: Jessie C., of Ada, Ohio, aged 12, had, when I saw her, the usual signs and symptoms of a periappendicular abscess, which I opened and drained. Her father, who is a physician, told me that from her earliest infancy she had been a frequent sufferer from colitis, with the symptoms and signs usual in such cases. Moreover, the present illness commenced as an attack of colitis, and only after these symptoms had continued for some time did the symptoms of appendicitis arise. She was even at the time of my visit having frequent mucous stools, tormina and tenesmus, and continued to have these symptoms for some time after the symptoms referable to the appendix had subsided. She is still a sufferer, at times, from the same trouble.

Since that time a number of cases have occurred in my practice, which seem to me to show that appendicitis not infrequently arises as a result of extension of inflammation or infection from the colon. From among these cases I will briefly report the following:

CASE 1.—Mrs. B., of Lima, Ind., was referred to me by Dr. G. W. McCaskey, whom she had consulted on account of bowel trouble. Dr. McCaskey, after examining the case, concluded that the patient had been for months a sufferer from gastro-intestinal catarrh, but that she was at present suffering from a mild appendicitis, this being the third attack, the first having occurred three months before. For two years she had been a sufferer from obstinate constipation. On removal, the appendix was found to be the seat of a catarrhal inflammation, with slight signs of periappendicular inflammation. So certain was Dr. McCaskey that in this case the appendicular trouble had its origin from the bowel, that he suggested that it might be advisable to treat the colon for a time in the hope that an operation might thus be avoided.

CASE 2.—Mrs. M., widow, aged 35, was taken sick October 23. I saw her two days later, when I got a history of habitual constipation. She had had a slight passage on the day before she was taken sick, this being the only bowel movement for ten days. She had had several attacks of belly pain prior to this, but without any localized pain or tenderness. When I saw her the abdomen was greatly distended, generally tender, and vomiting was frequent. She also complained of much pain in the back and head. Because of the frequency of peritonitis of appendicular origin, the abdomen was opened in the right semilunar line and a slightly adherent and perforated appendix was removed, and an abundance of foul pus evacuated.

CASE 3.—Mrs. R., aged 56, is at the present writing convalescent from appendicectomy done on the second day of the first attack. Her attending physician, Dr. Drayer, who was my assistant for three years, and has had considerable experience in appendicitis, told me that he had treated her a number of times for attacks of belly pain, which he regarded as acute exacerbations of a chronic colitis, and assured me that this was the only time he had ever found any signs of appendicitis. This patient still has symptoms of enterocolitis.

CASE 4.—Mr. S. was referred to me by his brother, who is a physician of ability. He was taken sick with the usual signs of an acute colitis, including frequent bloody stools, and after five days developed appendicitis, for which he was operated. Many authors consider chronic constipation a causative factor in the production of appendicitis, but I know of only one (Maylard) who speaks of the possibility of extension of inflammation from the cecum to the appendix. He says: "Extension of inflammation from the mucous membrane of the cecum to that of the appendix probably takes place in some cases."

Lange[2] says: "Appendicitis is due, in America, to two of our natural failings, those of eating too much and chewing too little, the result of which is constipation." I believe this statement would be more nearly correct if the last phrase were made to read, "the results of which are colitis and constipation."

The uric-acid diathesis is acknowledged as a predisposing cause of appendicitis. This condition is usually accompanied, and not improbably caused, by gastro-intestinal disturbances. The majority of cases of appendicitis occur in childhood. Enterocolitis and colitis find the majority of their victims during the same period.

Greig Smith[3] regards the mechanical causes of appendicitis by far the more important. He says: "It may safely be affirmed, that very few cases of appendicitis would become dangerous if there were a free passage always patent between it and the cecum."

*Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

It is quite reasonable to suppose that either impaction of the feces in the cecum or swelling of its mucous membrane may produce closure of this passage. When we consider that both these conditions frequently, if not usually, obtain in colitis; that colitis is a disease of frequent occurrence; that both colitis and appendicitis occur most frequently in childhood; the conclusion seems forced on us that colitis is frequently the cause of appendicitis.

As for myself, my personal experience has convinced me that colitis and constipation, either or both, frequently cause inflammation of the appendix. If my position is correct, then the physician has in the prophylactic treatment of appendicitis not only a legitimate field, but one from which he may expect to reap a harvest for which both he and his patients may well be thankful.

The second and last question which I wish to discuss is: Is not incision and drainage the best method of treatment in some cases of appendicular abscess? No one of experience in appendicular surgery doubts for a moment that the appendix should be removed in the great majority of cases operated on. Neither can there be any doubt that the number of cases in which incision and drainage is the better operation has grown less as skill and knowledge in this branch of surgery have grown greater. Greater skill will enable some operators to remove the appendix in cases in which its removal at the hands of other operators would be attended with unwarrantable risk.

If the truth of this statement be granted, and I take it that no one will dispute it, then does it not follow that this same "greater skill" would enable those possessed of it to establish drainage with greater celerity and with less shock to the patient than their brothers of lesser skill? Good logic, it seems to me, requires an affirmative answer to this question also. If our reasoning thus far be correct, then either one or the other of the following conclusions must be accepted as true: 1, no case of appendicitis can be saved by incision and drainage that can not be saved by appendicectomy; or 2, incision and drainage without removal of the appendix is the better operation in some cases of appendicular abscess. Other things being equal, appendicectomy is an operation of greater gravity than simple incision and drainage. There are some cases in which the shock of either operation would prove fatal. On the other hand, there are cases that would withstand the simpler operation, but would die if subjected to the graver one. If then incision and drainage is sufficient to bring about recovery, even though it be granted for the sake of argument that it will not be perfect or permanent, then we are forced to the conclusion that some cases may be saved by this method which would die if subjected to removal of the appendix.

The question as to the advisability of removing the appendix, after recovery following incision and drainage, is, of course, not now under discussion.

If one believes that appendicectomy is the graver of the two operations under discussion, and at the same time holds that the appendix should be removed in all cases operated on, at the time of the primary operation, is he not likely to reject as unfit for operation some cases on which he who holds the contrary opinion would operate? If operation will give even the slightest chance of recovery, then the patient is entitled to that chance. I do not think that any one will claim that the immediate death-rate following incision and drainage is greater than that following appendicectomy in case of like gravity. I mean deaths occurring as a result of the attack for which the operation is made.

Deaths due to attacks recurring after incision and drainage may with some show of reason be charged to this method of operating. But it will not do to assume that all such deaths might have been prevented by removal of the appendix, for that would be assuming that the operation of appendicectomy itself had no death-rate, which would be manifestly wrong. On the other hand, I believe it to be true that incision and drainage has per se no death-rate. Some cases, in extremis, treated in this way will die, but not from the operation. I contend that a greater number of this class of cases will die after appendicectomy than will die after incision and drainage.

For a paper published in the *American Jour. Med. Sci.*, 1893, the statistics of which are given in Greig Smith's "Abdominal Surgery," vol. ii, p. 762, I collected 448 cases operated on. Of these, 157 cases of appendicectomy during the attack gave a mortality of 19.7 per cent.; 14 cases operated on during quiescence gave a mortality of 14 per cent. Incision and drainage in 188 cases gave a mortality of 18.18 per cent. This is certainly a remarkably favorable showing for incision when we consider that the cases that were treated by incision and drainage were so treated because their gravity, in the opinion of the operator, precluded the more radical operation.

Through private correspondence with fourteen operators of repute in this country, I collected 177 cases of appendicitis treated by incision and drainage. To these, adding 25 of my own, we have 202 cases thus treated. There was a recurrence in 13 per cent. of these cases. The time elapsing after operation varies from two weeks to twenty-one years.

Dr. Ochsner reports 9 cases, with 5 recurrences; Dr. Joseph Eastman, 20 cases, with 10 recurrences. While I do not wish to be understood as questioning the validity of the reports of Drs. Ochsner and Eastman, I do want to say that their statistics are so at variance with any other statistics with which I am acquainted, that I am forced to the conclusion that they do not teach the truth as regards the frequency with which recurrence of attacks may be expected after incision and drainage.

In my own cases I have had one recurrence. This occurred after four years. Two of my cases were operated on only two months ago. The rest were operated from ten years to six months ago. The average time since operation is about three years. My opinion is then that 13 per cent. of recurrences after drainage is certainly as many, if not more than actually obtain.

Granting that 13 per cent. will suffer with recurrence they will still have the chance of relief which operation affords during the second attack, which chance will be as good as this class of cases have from operation in the primary attack. Or they may have the chance which an interval operation affords. The interval operation is attended by nearly 6 per cent. less risk than is operation during the attack.

Given then 100 cases of appendicular abscess treated by incision, 13 will recur. Operated on during quiescence these cases will give a death-rate of 1.8 per cent. In other words, we will have the death-rate of interval operations in the hands of good operators to-day. I am not unmindful of the fact that many cases treated by incision and drainage will require an operation for

hernia later. But this operation will be required in a certain number of pus cases treated by appendicectomy also. Again, an operation for hernia in the absence of infection will give a death-rate much less than the difference in favor of incision and drainage as compared with appendicectomy in cases of the character under discussion. Whether a case suited to incision and drainage could be subjected to appendicectomy with less risk of hernia following than would obtain if treated by the former method remains to be proved. I take it that no competent man would think of treating a case by incision and drainage that could be treated by appendicectomy without drainage, and it is the drainage that causes the hernia.

Of the fourteen operators above referred to all but one, Joseph Price, replied in the affirmative to the question: "Do you from your own experience regard incision and drainage as the best method of treating some cases of appendicitis?"

I wish, in conclusion, to say that it is my firm conviction that no operator can subject all cases of appendicitis to appendicectomy, without a higher death-rate than is necessary.

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3. Abdominal Surgery, ii, p. 747.

DISCUSSION ON PAPERS OF DRS. DEAVER AND PORTER.*

DR. NICHOLAS SENN—I am willing to confess that there are more fistulæ following the retention of the appendix than its removal. Appendicitis, if not interfered with, leads in a great majority of cases to a number of conditions, but I think there is much to be done in the way of prevention. We all recognize Dr. Deaver as one of the most radical of men. Under ordinary conservative treatment, 80 per cent. of all cases of appendicitis will recover, and perhaps not more than one-half of them will ever suffer a second attack. I am glad that we have in this Section such a representative as Dr. Deaver, as he represents one side of the question and I the other. His statistics are better than mine, as I operate only on desperate cases, where there is no question as to the propriety of performing the operation, while Dr. Deaver operates on every case of pain in the appendicular region. I do not know of any more difficult subject to deal with from a surgical standpoint than appendicular fistula, and it is a dangerous operation to perform when treating it, no matter what the method. I have proposed in a number of instances to operate in the way I have described before, i. e., subperitoneal enucleation, and I prefer this method. Appendicular fistula means a great deal, and when I have reason to believe an attack has terminated in the formation of an abscess which has ruptured into the cecum, I am very cautious, as these cases are extremely dangerous. But if the abscess has formed during a first attack and ruptures into the cecum, I am very loath to recommend operation.

DR. MORDECAI PRICE, Philadelphia—I am exceedingly glad to be able, on one occasion at least, to take Dr. Deaver's side; we are not now in Philadelphia. I can endorse Dr. Deaver very strongly in this connection. I have operated 125 times, twice without pus, and fifteen times the head of the colon was open. In many cases the appendix was separated from the head of the colon by ulceration. I have not yet regretted a single operation. I have devised an operation with a view of avoiding fecal fistula by first opening the abscess and then simply enucleating the appendix. I thoroughly irrigate, draw the colon forward, separate all the adhesions within the peritoneal cavity, repair the head of the colon to the best of my ability and use silk suture for this purpose when it can be borne. I use simple gauze drainage in all cases. I replace the colon as far back as I can so as to have a long drainage tract to close by contraction. Dr. Deaver states that the drainage-tube does harm, and I am sure it is often the cause of fecal fistula. I have yet to see a case where a cure was not effected within three weeks. The wound will close by the slow contraction of the cicatricial tissue, and I have not seen any case give trouble in this respect. As to Dr. Senn's statement that 80 per cent. of cures take place by medical treatment, I have never heard him make any such statement in any surgical meeting before. I am surprised to hear it and am surprised to hear him advise leaving the appendix in under any circumstances. If I had appendicitis and had my choice of the two men, after Dr. Senn's statements to-day, I should prefer to have Dr. Deaver treat me. This is one of the most serious questions we have to deal with. It is not five weeks since I saw two cases die of so-called medical treatment. I operate on every case that will leave the table alive, and I am more than ever convinced that when a man can not make a diagnosis he should not trust to his medical treatment. The cases that kill are those that have to be operated on before a positive diagnosis can be made. There are three men in this room in whose practice I have operated 22 times with only one death. Gauze drainage and Schuylkill water will save everything that you can operate on; the trouble is the men do not use Schuylkill water. I had a case of abscess in the kidney region which I simply opened and drained and in which I had made a mistake, as I believe it was a case of appendicitis and the appendix was no doubt gangrenous. I remember a case which a year ago had suffered typhoid for four weeks and pain and misery for a year. At the end of that time the muscles were like boards. His physician, who was a good man, told me he was sure pus was present, but I could not make up my mind what it was. I opened the patient and pus flowed out. I washed him out thoroughly and found a hole in the head of the colon into which I could stick my thumb. There was a large amount of rank pus present and I found five stones in the appendix. I then repaired the head of the colon, broke up every square inch of the bowel, washed out thoroughly, put in gauze and left the wound wide open. I have not used fifty silkworm-gut sutures in ten years to close these cases. In ten days a fecal fistula occurred, and the temperature was 102. I again opened the wound and put my fingers into a quantity of pus. I used the gauze again and the man is now on the way to health. I consider this the most important part in the treatment of appendicular fistula.

As to the first paper, many young people are affected in this way. Some cases occurring in patients 50 years old have been operated on with good results, and there is no reason why you should hesitate in any case merely because of age. The patient will be more comfortable after operation than before. If you can not make a diagnosis and the case looks like death do an exploratory operation at once. When it is only exploratory a two to three inch opening in the skin would never kill any one.

DR. R. H. M. DAWBARN, New York City—I believe that twenty-five years from now we shall hear the same discussion as at present. He who is radical will be said to be killing his patients, even though he proves the contrary; while the opposite side will still be taken by many of the unconvincible. The most conservative surgeon is the one who conserves the patient's life, however radical his measures. I agree with Dr. Deaver absolutely; and if I had the diagnosis of genuine appendicitis, not merely appendicular irritation, made on my own person I should certainly be operated on at once. While I do not wish to stand up for Croton water, as Dr. Price has done for Schuylkill water, we in New York do not expect pus. With so many men anxious to discuss this subject, I do not think any of us should take more than a moment on any one point, and I wish only to allude to one point. One may so frequently prevent fistula, and I have a feeling that in the majority of cases its formation is due to deficient technique. When I find the appendix is gangrenous I have invariably for some years past surrounded the gangrenous part of the cecum with a purse-string suture (a running Lembert) well outside of the gangrenous portion, and then inserted this portion. In a week the slough will separate and this portion would fall off into the feces. It would be a very unusual degree of gangrene that could not thus be surrounded. If the cecum be not left smaller

* Dr. J. B. Deaver's paper on "Appendicular Fistula" appeared July 14.

in caliber than the ileum opening into it no trouble will result. As to the statement that when a gangrenous patch is present fecal fistula will surely follow, I am sure it is not necessarily true. The technique I have named is credited to me in Fowler's work on "Appendicitis."

DR. W. D. HAMILTON, Columbus, Ohio—I have had fair opportunities for studying cases of appendicitis, considering the size of the city in which I live, and much of my experience has been gained within the last eight years. No absolute rules can be given in regard to the disease which will be applicable to all cases. It is not too much to ask the general practitioner to make repeated examinations of the abdomen of the patient from the time at which he is first called, and if the case be suspicious, he should at once call the surgeon and let him take the responsibility of saying when the operation should be done, if at all. Several points have interested me to-day, and one was the question of irrigation. I have no doubt that in some of the desperate cases it should be used, especially when the infection be general and purulent. In other cases it is unwise, lest the infection become general from its use. In my own experience fistulæ have ordinarily healed without suture within a few weeks. A few have needed closure by operation. If the patient is kept in bed for a time on a liberal liquid diet and the wound kept clean the fistula, if one of the large bowel, will frequently heal. I remember a case of appendicitis operated on a few weeks ago in which a fecal fistula occurred and three or four weeks afterward it became necessary to establish an opening in the loin in order that drainage might be facilitated.

I wish to emphasize the point Dr. Senn made yesterday, that enucleation of the appendix is useful when the organ is inaccessible and can not be brought outside. It is a useful experiment and is often applicable where it might be impossible to ablate the appendix by any other method.

DR. H. MYNTER, Buffalo—If I had the choice between following Dr. Deaver and Dr. Senn, I should take the former. I agree with him that the question is decided best by early operation. I must acknowledge that I am astonished to hear Dr. Senn state that nine out of ten cases get well by medical treatment. I think we may state that in all cases of appendicitis the first change is congestion, then cicatricial retraction, obstruction and stricture. Pyelitis follows, bacilli get to work, ulceration occurs, gangrene, perforation and peritonitis result. One can not usually make a mistake in such cases. I have wondered if it is opium that Dr. Senn believes in or is it hot and cold applications? As a rule, medicine will have no effect whatever. In regard to the first of the papers, it was stated that certain cases recur after incision and drainage, but in my own practice I have only seen 5 per cent. recur after this treatment. I believe this is the proper thing to do in a great many cases, but if you see the patient early the removal of the appendix should be done as Dr. Deaver says. If we get them late, that is a different matter. The consensus of opinion is that in the late operation, say after six days, the appendix should be left alone. Dr. Deaver says that fistula is the most important sequela, but I do not agree with him, as I have seen only five in my practice. They get well by being left alone, and there was only one exception to this rule. When healing does not take place after resection, end-to-end anastomosis should be performed. Everything considered, I feel that Dr. Deaver takes a very strong position. I entirely agree with him in operating early, but I disagree with him in removing the appendix in every case. I believe in personal equation, and I also believe that Dr. Deaver may be able to do it where others would fail.

DR. W. W. KEEN, Philadelphia—Like the poor, appendicitis is something we always have with us. As a result of the discussion which was held two years ago in Denver, thirteen months ago in Chicago, at the meeting of the American Surgical Association, two questions were proposed: 1, should operation be done in every case the moment the diagnosis of appendicitis is made, and 2, should the appendix be removed in every case? It is sometimes stated that Philadelphia is asleep, but on that occasion the only two surgeons who advocated instant operation and universal removal of the appendix were Drs. Deaver and Harte, of Philadelphia, every other surgeon who took part in the debate speaking in the negative. I can not but think that in these discussions we surgeons forget that we are surgeons and that we are called in constantly to see the pronounced cases, but not the mild ones. I am not prepared to go so far as Dr. Senn, who says that 80 per cent. would get well without treatment, yet I can not forget the statistics of Hektoen, who, in 300 consecutive cases seen postmortem of patients dying from causes other than appendicitis, showed that 100 had evidences of this disease. This shows that a very large proportion of the cases diagnosed as intestinal colic and such like were really cases of slight appendicitis which got well without surgical treatment. I believe there is a very large proportion of cases that surgeons never see and which do get well without surgical treatment. I do not believe in practicing surgery by aphorisms, neither do I believe that it is right that every case should be treated this way or that, as each case is a law unto itself. I have operated on cases of appendicitis just as quickly as I could make the needful preparations, and I have refused to operate. In spite of the theoretical statement Dr. Deaver makes, he does not operate on every case. I believe it might be placed as a rule with exceptions that no case certainly should ever be allowed to pass beyond two attacks, because it shows there is a condition which is sure to recur. Hektoen's statistics show that one may have a single attack and no more. Appendicitis of any gravity should be operated on, and I try to follow this rule, but I do not believe that every case should be subjected to operation. We must remember that we lay down rules here for the whole country. A rule laid down for Dr. Deaver, if made to apply to a man of less experience, one who does an operation once in three or four months, would be giving too great liberty. In many communities there are not enough cases of appendicitis to give experience. We must differentiate not only the case, but the surgeon. What is permissible for a man of large experience and great operative skill is not applicable to every doctor in this country who may be called on to treat a case of appendicitis, and I would urge therefore a consideration of what is best in the case of each individual patient. As a rule, operation will be best, but there are many exceptions. Also, as a rule, removal of the appendix is best, and as we grow larger in experience and more skilful in operating from having had difficult cases to deal with, successfully and unsuccessfully, and learn by our failures we become more and more expert and urge the removal of the appendix in almost every case. I am sure that if we had a very large number of cases of appendicitis it would be unwise for us always to attempt removal.

As to fecal fistula, I agree with Dr. Price. While they are rare, it is still rarer to find one that does not heal spontaneously. A very large proportion of them will get well if left alone. However, I have seen a number of cases that did not get well, and have been so unfortunate as to have one in my own practice. I have seen some very large ones indeed, and my usual rule is to open the abdomen clear into the abdominal cavity to the side of the fistula, cleanse and pack, and then, by making an incision at the side, I insert my finger into the opening. I then invert the margins and by appropriate treatment with a Lembert suture and gauze, complete the operation.

DR. F. W. MCRAE, Atlanta—There is one statement in Dr. Porter's paper which it seems to me is misleading, that is the statement as to the frequency of recurrence of appendicitis after simple drainage of the abscess. Recurrence has taken place in more than 75 per cent. of the cases I have seen that have been drained, and removal of the appendix has been subsequently necessary to relieve the condition. Dr. Senn did not mean to say that 80 per cent. of the cases got well without operation, and he did not use the term. He said 80 per cent. would recover from the attack, which does not mean get well. A large proportion will recur and require subsequent operation. An operation for appendicitis done during an acute attack often does not leave a sound belly wall. Those who do this kind of work should consider the possibility of ventral hernia. I saw a case only the other day, of through-and-through closure where drainage was put in, develop a ventral

hernia three years after operation. Dr. Price makes a very dangerous proposition when he says that in every case of appendicitis with infection we should shut off the abdominal cavity with gauze and tear up all adhesions. I do not believe that this practice should be generally adopted, neither do I believe that surgeons generally get as low a mortality as 5 per cent. in this class of cases. I think Dr. Price's suggestion may be carried out in certain cases, but it is dangerous to recommend it as the proper practice for all cases.

Some appendicular abscesses ought simply to be drained. I have seen seven or eight cases of fecal fistula, all of which, with the exception of two, have closed without treatment other than simple cleanliness. In two of them it was necessary to operate. I reported, last December, before the Southern Surgical and Gynecological Association, the method which I adopted in these two cases. The simple point, which is somewhat original, is in the putting in of several tiers of sutures. Four or five tiers of sutures will turn the edges in without turning too much of the gut, and I have seen the method cure where a simple row of sutures would not. As to the gauze packing after operation for fecal fistula, I think Dr. Deaver's statement is somewhat misleading. I consider it bad practice to pack the gauze down to the line of suture, and I believe it will often cause a failure of the operation. I use gauze, but do not allow it to go down as far as the line of suture.

DR. JOHN B. MURPHY, Chicago—I wish to congratulate Dr. Deaver on two points, 1, on the amount of work he has done in repairing fistulæ, and 2, the interest with which he has taken up the prevention of the results which he is laboring so hard to devise a means of repairing. Fistulæ are not necessarily the results of bad work at the time of the operation, but they should not occur. We are not justified in having cases presented to us that will have fecal fistulæ. Will we ever get this matter right? Will it ever come to be as bad or worse than it was in the beginning? I will accept the statement and will add to it that more than 80 per cent. of the cases recover without operation, but I believe that 98 per cent., even 99 per cent., will recover with a timely operation. Will we come here and father a procedure which we admit has an expense of 20 lives in every 100? Is there any amount of evidence that will right it, or any proof which will prove it? I have not had Dr. Deaver's unfortunate experience in seeing so many cases of fistula. The men who call me in consultation have been educated to calling me in early. Can we, as physicians, tolerate 15 or 20 per cent. mortality without operation? Do you want your life jeopardized to the extent of 15 or 20 per cent.? We will certainly waste some time by operating on every case, and the questions are: Should every surgeon operate on every case and should every case be operated on? We must assume that good intelligent surgical skill is available in almost every town of two or three hundred citizens, and available within a few hours. Heretofore I have said that I operate on every case of appendicitis, but I wish to apologize for making this statement, as I do not. Cases of moribund appendicitis I leave to the physician, as he is entitled to have them if he keeps them up to this stage. Within the last year one physician has had three cases of this kind on which I refused to operate, and they all died. In some cases I merely empty the stomach and cease to give them food. No case should be allowed to go on to peritonitis, and I feel that any practitioner can make the diagnosis, as it is a very easy matter. The diagnosis can be made in every case within the first twenty-four hours. It is our duty as surgeons to avoid the possibility of fistula by removing the infected appendix at a time when it can be done safely, and there should not be even a loss of 1 per cent. Can any one shows us that he has operated on 100 cases without a death, or on 1000 cases and not had a number of deaths? I remember no case operated on within twenty-four hours that died. I am willing to take the responsibility of operation if it has no danger.

DR. PLATT—I have listened with great pleasure to this discussion and consider Dr. Keen made a wise remark when he said that every case must be considered individually, separately and distinctly from all others. I do not think that every case should be operated on. If, within a very short time after the beginning of the disease, it is believed that suppuration will occur, the operation should immediately take place and may be performed by an experienced surgeon with a mortality which is practically nil. If the patient has been permitted by the attending physician to go on until the disease has passed through a very considerable period, but has recovered, that patient is not well and should be operated on unless it is a very old person, because the operation will be far less dangerous than the risk of recurrence. I do not believe it is wise in all cases to waste time trying to remove the appendix. I have noticed in my own practice that where I have left the appendix in and have drained with gauze the patient has fully recovered and not in one case have I had a recurrence. I have known of serious damage being done by searching far and wide for the appendix, and I believe if we will let it alone nearly all of these cases will recover. But few of them will recur if we drain well with gauze and do not sew up the wound too soon, as this would interfere with drainage.

DR. F. D. GRAY, Jersey City—Appendicitis is a subject which interests me very much, although I have not had a very large experience with the disease as compared with that of many here, my operation cases not numbering probably more than 175. Not more than seven, however, have proved fatal and the cases have been taken as they came, primary, moderate and desperate, just as we find them. I am a strong believer in early operation, and I think with Dr. Deaver that every case should be operated on as soon as the diagnosis is made. I agree also with what our eminent President has said, that when we talk about advising physicians throughout the country we must not give bad advice; but what shall we aim at? Shall we strive for less than can be done by the best men? I claim that when we talk about operating on all cases of appendicitis we have mainly in mind cases which come to us for advice. I believe that any surgeon with an aseptic hand and instruments and a fair knowledge of technique can open the abdomen and remove a primary inflammed appendix with safety. When we come to statistics, admitting that 80 per cent. will get well without operation, what are the surgeon's results? Do you expect that 20 out of every 100 will die. We would all be ashamed of such results from surgical treatment. I do not claim any especial skill, but, as I have said, I have only had 7 deaths in 175 cases, and 5 of them should not have been touched had I had consideration for my statistics. I would like to plead also for the cases that may not be moribund, but still are suffering from general peritonitis. These are the cases which usually remain under the care of the physician until surgery is called on as a last resort. I have done a laparotomy in about fifteen of these cases and found them suffering from a virulent form of peritonitis. Ten of them are living to-day. After opening the abdomen I eviscerate the intestines completely into hot towels, wash out repeatedly with a saline solution and peroxid of hydrogen, flush the abdominal cavity again, return the intestines and drain with gauze. I do not simply drain in one direction, but in several, and remove the drains in two or three days. This procedure I am convinced will save many lives.

DR. RUFUS B. HALL, Cincinnati—I do not feel that this discussion should close with the statement that desperate cases should be left to the medical man. We see too many of them in which there is an accumulation of pus six, eight or ten days after the primary attack and these are the patients who deserve a chance to get well. If they are dying I agree with Dr. Murphy, but if not they should be given a chance by letting out the pus. In this class of cases I disagree with the speakers who say that we should remove the appendix in all of these instances. Should the patient get well, a second operation can be done at a time when they would have some show of surviving, but if you do complete the operation at that time you will lose your patient. When you are called to see the case at the bedside you must decide this question for yourself. If you believe that every one of them must be operated on as soon as the diagnosis is made you will lose many.

DR. H. J. BOLDT, New York City—I agree entirely with Dr. Murphy and operate on every case except those that are moribund. We have heard that about 80 per cent. will get well

without operation and 90 per cent. will survive the primary attack. A second attack may occur, however, and within twenty-four hours a general septic peritonitis may have developed. If the patients get well from the primary attack, by all means advise radical operation during the interval. I fully agree with what has been said by those who take the ground that radical operations should be done in every case of appendicitis.

DR. CHRISTIAN FENGER, Chicago—Operation is not always the first thing to be thought of in appendicitis; if 80 per cent. recover from acute attacks they will be in a state of comparative safety. My own practice and my advice to my students is to first make the diagnosis, but not to operate simply because the diagnosis is made. If the symptoms improve, the patient may recover from the attack, but if they become worse immediate operation is indicated. About 30 per cent. of the patients have a second attack. About one-half of these have the second attack during the first year, while 70 per cent. do not have any recurrence. The question when we should operate is a difficult one, but I wish to emphasize conservatism and do not feel that the 80 per cent. necessarily should be operated on.

DR. WILLIAM EASTERLY ASHTON, Philadelphia—I agree absolutely with Dr. Deaver in the position he has always taken with reference to early operation so soon as the diagnosis is made. If you are called in to see a case and you make the diagnosis you can not say what the condition of the patient may be to-morrow. It is absurd to say: "Call in the surgeon early"; you might as well say: "Call in the cook," as she has as much knowledge of what is going on as the best surgeon in the country. I agree with Dr. Murphy that 20 per cent. mortality in the early operation is horrible. If we can only offer 80 per cent. recoveries, then I for one believe that the patient is running risks which are not justified. The whole question is in our ignorance in diagnosis If we have a large lump present, it is easy to say that the patient should be operated on, but it is in the early stages where the difficulty arises, as it is impossible for us to know what is going on or what to do. I operated on a case three weeks ago which was first seen by me on Sunday. The patient had been taken sick the previous Thursday, and when I saw him his general condition was good, pulse 80, temperature normal, abdomen flat, and pain on pressure over the right side. I advised operation and transferred him to the hospital, where I found a post-cecal appendix four inches long, thick and gangrenous. In a few hours more perforation and death would have occurred. There was considerable objection to the operation because the man had been getting steadily better so far as his symptoms were concerned, but the appendicitis caused me to urge operation, and it was none too soon.

DR. ERNEST LA PLACE, Philadelphia—There is no doubt that the mortality from appendicitis is too high. We are constantly being shocked by the death of well-known people from this disease, and every effort should certainly be made to diminish this mortality. In every case of appendicitis there is a time when operation will mean recovery. If this is true, and why should it not be true, when we know that a mere opening of the abdominal cavity has no danger, then the medical man is responsible for the death. If we could establish precise rules on which the diagnosis could be made, then the diagnosis would be an indication for operation. Is this possible? Do all of us who have studied pathology, especially recent pathology, know in a given case of appendicitis whether the pain is a symptom which has a microbic element? If so, is it the staphylococcus? Is it the streptococcus? Is it the bacillus coli? Toxins may develop, the absorption of which may cause death, and yet give very little general recognition. You may have the appendix loaded with the bacilli coli and yet you may have no temperature disturbance. The pulse may have gone up, but if it had been stimulated by the streptococcus there would have been some equilibrium between the pulse and the temperature. How are we going to tell what is going on? I know from experience of a case which occurred some months ago in a gentleman 26 years of age. He had been ill only two days, but it is my rule to take it for granted that it is a grave case when I am not sure. The man refused to be carried to the ambulance and also to use the elevator, preferring to walk, which he did, to the top floor of the hospital building. His father wanted to be present at the operation, but I refused him permission. When I opened the abdomen his pulse was 90, his temperature normal, and I found three enormous abscesses in the abdominal cavity. Peritonitis developed. You may be sure that the next case I see will be operated on, but should I neglect to do so I shall always have the lasting regret that I had not benefited by experience.

DR. A. J. OCHSNER, Chicago—In order that my statistics which Dr. Porter quoted may not be misleading, I must say a few words in explanation. The nine cases to which he refers and which were treated by means of drainage without removal of the appendix all occurred in my practice during the past two years, 1898-1899. During this time I operated on 248 cases of appendicitis. Consequently this form of treatment was employed in less than 4 per cent. of all cases. In former years I employed it in a much larger proportion of cases. In many of these the pathological conditions were very much less serious in character, and consequently the relative number requiring further operative treatment was much smaller at that time. No surgeon should be guided in this matter by the opinion of another, for with increasing experience and skill each one will find that he can remove the diseased appendix safely at the first operation in a relatively greater number of cases.

The question in any given case is: Will the patient be more likely to recover from the present attack by simply instituting drainage or by adding to this the removal of the appendix? The surgeon in the meantime must not base his treatment alone on the condition he finds, but also on his own skill and experience.

It seems proper in this discussion to speak of a form of treatment which, if employed systematically, will not only make the operation of which Dr. Porter speaks unnecessary, but also prevent the recurrence of the complication which is the subject of Dr. Deaver's paper. In order to show why the treatment I am about to advise is of great value, I must first direct your attention to the anatomical location of the appendix. It is located in the most favorable position possible for its isolation from the general peritoneal cavity, having above it the cecum and the cecal end of the ileum; behind it is the peritoneum covering the iliacus muscle; to the right and in front is the parietal peritoneum, and to the left the small intestines. Were it not for the presence of the very movable small intestines to the left it is plain that an inflammation of the vermiform appendix must necessarily result in a harmless circumscribed abscess in the worst case. This would be the more likely because the omentum folds itself about the appendix at once in case of inflammation. In order to prevent extensive, dangerous and destructive inflammation, then, it will be necessary to secure complete rest for the small intestines. The motion in the small intestines is due to peristalsis, and this is due to the entrance of food from the stomach into the small intestines, even in very small quantities. To secure complete rest it is, consequently, necessary to prohibit the use of food of any kind by mouth, and if the stomach contains food, to remove this by means of gastric lavage. The patient may be nourished by the use of concentrated predigested enemata, not to exceed four ounces at a time, given once every four to six hours. I have employed this method in many cases and it is certainly of great practical value. It relieves the pain by rapidly reducing peristaltic motion and gaseous distention of the intestines; it prevents the small intestines from carrying the septic material from the region of the appendix into the more sensitive portions of the abdomen. In short, it prevents all of the most favorable conditions and complications of appendicitis. I would, consequently, advise the treatment consisting in absolute and complete prohibition of the use of food and catharties by mouth; of performing gastric lavage, and of employing exclusive rectal alimentation in all cases of appendicitis.

DR. MILES F. PORTER, closing—At our meeting a year ago Dr. Deaver stated that he advised removal of the appendix

in all cases on which he operated and later stated that he did not advise it, but always did it. In his paper to-day he reported a case where he did not remove the appendix, and therefore there is no difference of opinion between us. I am absolutely opposed to the method of operating suggested by Dr. Price. He says that he breaks up the abscess walls, which in my opinion not only harms the patient, but may kill him. It kills patients that do not need to be lost. As to the matter of statistics, I said that 13 per cent. of recurrences after drainage was too large and I still believe it. I must enter a most earnest protest against the statistics given by Dr. McRae, i. e., that 75 per cent. of the cases operated on recur if the appendix is not removed. I am aware of the fact that there is nothing so fallacious as facts, except figures, but making all due allowance, we must not accept this statement. I believe I understood Dr. Murphy, and I believe the impression he leaves is a wrong one, i. e., that when a case is so bad that it scarcely has a chance of recovery he leaves it to the physician. I do not think he means this. I am too sympathetic to let any of these patients die without operation, and 99 per cent. of them will probably die, do what you will; but every now and then you will save one and you will not kill any. Every surgeon should give a patient a chance for his life, and I think that we should be very careful as to the impression we leave regarding statistics. I was very glad to hear Dr. Ochsner's explanation of his method of treatment.

One man reported 175 cases of appendicitis, including severe pus cases, with only 7 deaths; I must say that he is playing in better luck than any operator I know—that is all.

DR. J. B. DEAVER, closing—While Dr. Senn and I are the best friends, it is evident we do not agree on the subject under discussion. Dr. Senn says that I am a man of extreme ideas; I am glad to go on record as such on the subject of appendicitis. Gentlemen who visit the German Hospital have ample opportunity of seeing many of my cases after operation, and can testify as to the result. I operate as soon as I can make the diagnosis and do not wait until the eleventh hour to do it, which will mean crape on the door. I regret to say that I have not one iota of confidence in the judgment of a man who says that he can wait until pus is present, for such a man knows nothing of the gravity of the disease. I could cite case after case were it necessary, but I would like to ask how many men there are here this afternoon some of whose friends would not have been saved had they had the treatment I advocate. My cases number in the thousands, and I simply say that I know in the majority of instances when a case has appendicitis, and I also know that when such is the case the appendix should come out. This subject has been very thoroughly discussed, but I confess I am much grieved to hear some of the utterances made. It is our mission to promulgate the doctrine which will save and not destroy lives.

Dr. Keen said in Denver that a living man with an appendix is better than a dead man without; I should say that in my opinion a living man without an appendix is better than a dead man with one. Dr. Keen says that I do not operate on every case, and that is true. I may not have the conveniences at hand, friends may object, and the patient may be practically dead when I am called. I do not believe any of us can cure general septic peritonitis. My experience is that in the latter case death is more painful after an operation than before it. I am arguing from the standpoint only which will save the greatest number of lives. Dr. Keen states that early operation will save more lives than late operations, and he also mentions that he sees many cases very late. Why? Because of the teaching that we should wait several days, when the patient is thought to be doing well, before doing anything. I regret seriously that such a stand should be taken. No men have my regrets more than Drs. Senn and Keen, for they are promulgating a theory which will cost many lives.

Hydrogen Peroxid as a Hemostatic.—The *Sem. Méd.* quotes Rifaux to the effect that hydrogen peroxid is extremely effective as a hemostatic. A tampon moistened with it and inserted in the nasal fossa in case of hemorrhage will arrest even the most serious and uncontrollable epistaxis.

TREATMENT OF IMMATURE CATARACT.*

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Non-progressive cortical opacities are very rare. The opacity accompanying congenital coloboma of the lens, the partial cortical cataract caused by the adhesion of a retained or acquired pupilary membrane and some forms of traumatic partial cataract do not progress. The anterior punctate cortical cataract, the posterior cortical cataract and the form of zonular cataract, in which the zone is situated well in the cortex of the lens, are extremely slowly progressive. Traumatic partial cataracts, with or without perforation of the capsule, sometimes become stationary and in a few cases the opacification partly disappears. Anterior and posterior polar cataracts are almost always stationary. The small white congenital cataract which occupies the center of the lens and apparently includes only those fibers that are formed during the second stage of development of the lens, the axial congenital cataract and a few cataracts with mixed opacities, are stationary or nearly so. Some forms of monocular stellar cataract, probably of traumatic origin, do not advance. Zonular cataract almost invariably becomes denser as the individual increases in years and in not a few cases general opacification of the entire cortex follows.

The development of cataract is due to a departure from the normal in the nutrition of the lens. The change which takes place in the lens structure may be either hyperplastic and degenerative, or simply degenerative. Cataract which forms during the course of an iritis, cyclitis, choroiditis, or which accompanies intraocular neoplasm, not infrequently presents a swollen appearance, a thickened capsule and a multiplication of epithelial cells. The epithelial cells form in masses on the posterior surface of the anterior capsule, produce cystoid cells at or near the equator of the lens, and sometimes more or less completely cover the anterior surface of the posterior capsule. This form of cataract is sometimes spoken of as inflammatory. To designate these cataracts as inflammatory is plainly a misnomer, since their development is due to perverted nutrition only. In traumatic cataract, with infection of the lens substance, a multiplication of germs takes place in the lens accompanied by an infiltration of small cells and a disintegration of lens fibers. In no other condition will we find a true phakitis.

Cases in which medicinal therapeutics are indicated, due to the condition of the interior of the eye, are those in which intraocular disease, other than cataract, is present, choroiditis, iritis, cyclitis, glaucoma, retinitis, parenchymatous kerato-iritis, atheroma of retinal vessels, etc. The treatment should, of course, be local and constitutional and does not differ because of the presence of opacities in the lens, from that which would otherwise be employed. The influence of such treatment on the lens structure is not to clear up existing opacities, but to prevent further opacification by improving or by preventing further impairment of the nutrition to the lens.

Medicinal therapeutics and other measures to improve health based on the constitutional condition of the patient have a wide range and are of value in preventing the progress of cataract, but are of no importance in causing a disappearance of opacities that have already formed. In atheroma of the vessels,

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arterio-capillary sclerosis, rheumatic or gouty diathesis, diabetes mellitus, albuminuria, pernicious anemia, extreme prostration and impairment of the health from any cause, proper therapeutic measures should be resorted to. I have had the pleasure of recording the arrest of opacification of the lens in patients whose general condition has been much improved by tonic and other treatment.

The question regarding the value of local therapeutic measures, such as massage, absorbents—so-called—or stimulating remedies introduced into the conjunctival sac, and electricity, in the early stage of senile cataract, to prevent progression in the opacification of the lens or to cause existing opacities to disappear, although very old, is one of much interest. All are apparently agreed that opacification of the crystalline lens is the result of impaired nutrition to the lens. Attempts to improve the nutrition to the lens are perfectly legitimate, and I do not think it beyond the possibilities to so influence the circulation of the eye, in some cases, that the progress of the cataract may be delayed. One who is familiar with the anatomical changes present in incipient or advanced senile cataract, of all kinds, must recognize the futility of attempts to cause opacities that already exist to disappear to any marked extent, and must recognize the fact that he who claims to cause the lens to again become transparent is either a knave or a fool. The prevention of opacification is quite another thing and is well worthy of careful study.

From the knowledge afforded by a study of the reports of methods for ripening cataract, the influence of traumatism on the lens and the results of massage of the eye as applied by others, I am of the opinion that this measure is not of much value in the prevention of opacification of the lens. It has fallen to my lot to operate for the removal of mature cataract on a number of individuals who have been subjected to massage of the eye for many months by those who profess to "absorb" cataract by this means.

Electricity in various ways has been applied by others to patients on whom I have subsequently operated for the removal of cataract. Personally, I have no knowledge that electricity has any effect in improving the nutrition of the eye; however, I am not in a position to bear positive evidence against it. I am of the opinion that the beneficial results to be obtained by its use are disproportional to the time and expense necessary to its proper application.

It is, of course, well known that opacification of the lens in some cases advances to a certain stage, becomes stationary and so remains for a varying length of time. Because of this it is difficult to ascertain what benefit is derived by treatment directed to the arrest of the development of cataract. Only by observing a relatively large number of cases and comparing those treated with similar cases not treated, will we be able to decide the value of any course of medication. For the last twelve years I have been directing some of my patients afflicted with incipient cataract, to employ stimulating collyria and moist heat to the eyes, for the purpose of ascertaining what influence the treatment would have on the development of the cataract. I am not as yet ready to report on this study further than to state that the results are sufficiently encouraging to cause me to feel justified in continuing. It should be added that the general condition of the patient is improved to the greatest possible extent, and so maintained in all of these cases.

It is generally known that changes in the refraction of the lens frequently occur during the development of cataract and that the adjustment of glasses in the earlier stages may improve the vision. In a case recently observed, myopia of 3 D. developed. In all cases where vision can be improved, glasses should be given, not with the expectation of producing any effect on the development of the cataract but for the increase of vision only.

In cases of nuclear, zonular, polar or axial cataract, either in youth or in age, if the tension of the globe is normal and the vision is improved thereby, a weak solution of atropin, sufficiently strong to produce a moderate dilatation of the pupil, may be employed often enough to maintain maximum vision.

Myotics are seldom required, but in certain rare cases where the axis of the lens is comparatively transparent and the apices of the opaque sectors, from the equator of the lens, enter the normal pupilary area and disturb vision, and in those cases where the development of cataract is accompanied by increase in tension as when the lens is swollen, a myotic may be employed. Pilocarpin is usually sufficient, but eserin may be required in some cases.

Regarding the operative procedures advisable in non-progressive cataract, the writer is of the opinion that optical iridectomy is advisable only in those cases where vision can be brought up to 20/40 or better by use of a mydriatic, and a correction of the error of refraction if any exists. This degree of vision should be obtained to permit the individual to pursue the ordinary vocations of life.

In all other cases of cataract where the fundus is normal the removal of the lens is necessary. In operating for the removal of immature cataract a number of procedures are open to us: In young individuals, needling of the lens with or without subsequent extraction of the broken-up lens substance by means of small linear incision in the cornea; preliminary iridectomy, with or without direct or indirect trituration of the lens, for the purpose of hastening the maturity of the cataract, applicable to old or young individuals; extraction either simple or combined. In a paper read before this Section in 1895 entitled, "The Treatment of Some Forms of Zonular and Immature Cataract," in which twenty-five cases were reported, I stated that I had abandoned the ripening operations for the reason that the facility of removal was not sufficiently increased to warrant the extra risk and trouble to the patient. I have not changed the views there expressed. Whenever in the development of cataract, the vision is reduced to such a degree that the individual can not follow the ordinary vocations of life, provided there is any reason for not waiting until the cataract is mature, I do not hesitate to advise operation. The choice of the method to be employed in removing the cataract depends upon the case. How to operate permits of an exercise of judgment, and the surgeon who is best equipped, in the way of experience and in a knowledge of the anatomical and pathogical conditions present will succeed best.

DISCUSSION ON "IMMATURE CATARACT AND ITS TREATMENT," P. 1467, BY DR. G. E. DE SCHWEINITZ.

DR. S. D. RISLEY, Philadelphia—I am personally indebted to Dr. de Schweinitz for bringing this subject once more before the Section. The first paper I had the honor of bringing before this Section, during the presidency of Dr. Connor, in 1889, was on the subject of "Incipient Cataract. Its Etiology and Treatment." That paper was based on a careful analysis

of 80 cases of immature and incipient cataract seen in my private practice. I then took the ground to which Dr. de Schweinitz has kindly alluded this afternoon, that the term senile cataract seemed to present the idea of old age as the sole cause of the disease. In contradiction of this view, I stated that the majority of old people do not have opacities of the lens; that though the lens may become straw-yellow in old age, it becomes cataractous only in exceptional cases; that therefore in those who did have cataract we should conclude there was some extraordinary cause producing it. The analysis of 80 cases seemed to show that this cause existed in disease, more or less pronounced, of the uveal tract of the eye. I showed, furthermore, in those cases that in a very large percentage of them not only was there demonstrable disease of the choroid in the eye in which the lens was sufficiently transparent to permit study of the eye-ground, but that floating vitreous opacities were present, and that in the majority, or at least a very large percentage, the individual suffered from headaches, asthenopia, red eyelids, chronic conjunctivitis of the congestive type, etc. In those cases in which the opacity is fixed and non-progressive, it is fair to presume that at some time in the history of that case the conditions I have alluded to were present, but when they reached such a stage that the light was partially excluded and the eye was permitted to rest the disease of the choroid gradually subsided and the opacity did not advance to maturity. This was my conception of the history and cause of opacity of the lens, and I argued that if I could arrest the cause by treatment I could probably arrest the progress of the opacity. I want to say here, and I think it should go distinctly on the records of the Section, that we never see the slightest disappearance of an opacity in the lens. I said then, and I say now, I have never seen such opacities disappear. Where an opacity is formed in the lens you can rest assured it will remain there and I think we should say so in order to prevent imposition on the community by the charlatans who advertise the removal of cataract by absorption.

The lower and inner quadrant is the portion of the lens where most of these opacities begin, and it is just this portion of the choroid that is most exposed to the light. Dr. de Schweinitz, at my suggestion, some years ago studied the condition of the choroids of a large number of stokers, and showed that the portion of the eye exposed to the heat and light was most frequently the site of inflammation and frequently presented opacities of the lens at that portion.

We shall often find that by the prolonged use of mydriatics, the correction of errors of refraction, and by the internal use of potassium iodid and other alteratives, the disease of the choroid is arrested, the acuity of vision very much improved, and the progress of incipient opacity of the lens arrested. There is one other point I wish to emphasize and that is concerning the surgical interference for the ripening of these immature cataracts. I observed carefully a series of 25 cases in which I did this operation. In many of these I did not succeed in making the slightest change, even in the opacity of the anterior cortex. A few seemed to ripen rapidly, but when I tried to extract the lens I found the posterior cortex clear and unaffected by the previous operation. Furthermore, in those instances in which the lens cortex was affected by the rubbing the subsequent extraction became difficult because of the glue-like tenacity with which the cortex adhered to the capsule. I quite agree entirely with the reader of the paper in the statement that he would very much rather take chances of extracting an immature cataract than to extract one which we have endeavored to ripen.

DR. J. A. LIPPINCOTT, Pittsburg—I wish to express also, as Dr. Risley did, my gratitude to Dr. de Schweinitz for his very able paper. His conclusions are so reasonable that we must certainly all agree with him. I certainly do and my experience has extended over a long time. I just desire to add that I have seen three or four cases of these opacities of the lens that were beautifully symmetrical in the shape of spokes of a wheel, and which lasted in three cases for 16 or 17 years, finally culminating in perfectly opaque cataracts on which I operated.

DR. W. H. BATES, New York City—I had a patient, 70 years of age, with lenticular opacities. About the time she was under my treatment I became acquainted with a gentleman of New York City, a physician in regular practice, a member of the New York Academy of Medicine, a graduate of Dublin University, and a very bright man, Dr. James E. Kelly. I sent this patient to Dr. Kelly for general treatment. Before she went to see him her vision was 15/200 from the incipient cataract. She came back to me in three months, and I can tell you positively that she then had no opacity of the lens, and her vision was 15/10. That is three years ago, and I saw the lady recently and she still has the same vision and no opacities. I have seen a second case in which there were opacities, and under the treatment of Dr. Kelly and in the course of a few months the lenses became perfectly clear. A third case, a patient 60 years old, with very prominent characteristic opacities of the lens and a vision of 15/50 with correcting glasses, was sent to Dr. Kelly, and in three months' time her vision was improved to 15/10, and a number of the opacities had disappeared.

Now, what did he do for them? I do not know. He told me, or tries to tell me, and the patients say he gives them water, at least three quarts a day, and has them go through exercises. Now, why does he give them water and exercise? The cataractous lens contains a great deal less water than the normal lens. That may be the reason this treatment helps them. I noticed in the patients he treated that the skin became clear where before it had been muddy, which is a condition found in many old persons; after a general hygienic treatment the skin becomes more like that of young people, and it may be that the treatment benefits the eye in the same way it does the skin, since both are formed from the epiblast.

DR. J. L. THOMPSON, Indianapolis—I wish to speak of one case that I did not send to Dr. Kelly. In 1871 a gentleman came to me with very white-looking cataract in one eye, and when asked if he had ever received any injury, he said he had not. The other eye was perfectly clear. I did not see him for a number of years, when he came in one day for some trifling ailment, I think the removal of a foreign body. About fifteen years ago the second eye became cataractous. He was a drinking man and, in fact, had nearly every vice under the sun. I operated on that eye and did a very beautiful operation, but he had an inflammation, an iridocyclitis, and lost the eye. He was blind then, and wanted to know what I could do for the other eye. I was afraid to touch it, but finally agreed to make a preliminary iridectomy, and lo and behold he could see a little, there being a clear space beyond the periphery of the lens. He complained a year afterward of pain in the eye and had to use eserin, and a month later that lens looked as if it was filled with water. I see that man now occasionally, and you can see the red reflex, but the lens disappeared and the capsule only remains filled with water. Perhaps, if a man could live three or four hundred years, a great many of these cases would cure themselves.

DR. G. O. RING, Philadelphia—The statement made by Dr. Bates recalls a case in my own experience. A lady in Philadelphia came under my care with well-marked double optic neuritis and vision reduced to almost nothing. There was a well-marked incipient opacity in the lens, very much like the one the Doctor described. In the course of a few weeks a consultation was held with Dr. Norris, my teacher at that time, and I remember that one of his first observations was that the patient had beginning cataract. The case was clearly a specific one. Active treatment was begun at once, and at varying intervals the patient was observed by me until now every particle of the opacity of that one lens has certainly disappeared and her vision is 20/20 in one eye and about 20/30 in the other. That is entirely unique in my experience, and I have never observed any opacity absorbed but that.

DR. I. R. GRIDLEY CASE, Collinsville, Conn.—About nine years ago two papers published by Dr. Kalish, in the *Medical Record*, on the absorption of immature cataracts fell into my hands. I had plenty of time at my disposal and tried the method after corresponding with Dr. Kalish, so that I might carry out his plan perfectly on a small list of patients. I

recall now four cases where I patiently rubbed the eye from within outward with the ball of the second finger, as directed, for one half hour daily for weeks. Of these cases, one of traumatic cataract showed not the slightest change. Another, of congenital cataract, undertaken at his earnest request, showed not the slightest change at the time nor several years later. Two other cases of senile cataract resulted as follows: One became more rapidly progressive than I have noticed in other patients of the same age, and the other remained stationary until the time of the patient's death. I now tell my patients with senile cataract, keep your digestion good, use your eyes reasonably, do not worry.

DR. G. E. DE SCHWEINITZ, closing—Opacities in the nasal quadrant are sometimes nearly non-progressive, that is, their progress is certainly very slow. There is another variety that is associated with a corresponding patch of retino-choroiditis that does progress. My only object in bringing up this subject was that we should discuss the best measures for the relief of these patients, and to state my belief, which has been strengthened by the discussion, that there is some reason to believe that we can help these people with proper treatment.

RHEUMATISM AND THE PREVENTION OF HEART COMPLICATIONS.*

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More than fifteen years ago Eichhorst, of Zurich, in the third edition of his "Handbuch der Speciellen Pathologie und Therapie," transferred rheumatism from the class of constitutional to that of infectious diseases. In doing so he was only expressing a conviction that had been forming among clinicians generally. Because of certain superficial resemblances to gout, rheumatism had been classed among diathetic diseases, but without good reason, as time and closer clinical observation showed. Eichhorst's position was not unique, but it is only after fifteen years that the medical profession is coming to acknowledge its correctness. We have at length come to the point of conceding the infectious nature of rheumatism. The reasons given by Eichhorst before any germs had been described as occurring in the lesions of the disease are to-day the best arguments for its infectiousness. Rheumatism has all of the characteristics of an acute infectious fever—the incubation period, the sudden rise of temperature and the remission, with gradual convalescence. It occurs particularly in damp weather, but so does pneumonia, and the dampness seems to stand only in a secondary causal relation to the disease. Even its contagiousness, under certain circumstances, is well established. It has been known to spread through a hospital ward, and to frequently attack several members of a family at the same time. In schools and barracks single cases of it are rarer than the occurrence of several about the same time. According to Eichhorst, Pocock, Schaefer, Jaccoud and von Strümpell, pregnant women have been seen suffering from rheumatism who gave birth to children presenting the symptoms of acute rheumatism.

The infectious nature of the disease is shown by its tendency to produce lesions in the most widely different parts of the body. An acute rheumatic arthritis of the wrist or ankle may be complicated by a rheumatic meningitis, endocarditis, or pleuritis. Autopsies made on patients dead during the acute stage of the disease present striking indications of an infectious disease. Hemorrhages into the various organs are noted; there is cloudy swelling of the cells, of the heart, of the kidneys, and of the liver. There is the enlarged spleen of distinctly lessened consistency so characteristic of infectious diseases.

BACTERIOLOGY.

Notwithstanding that rheumatism seems to be an infectious disease, no definite bacterial cause has as yet been established. As long ago as 1883 Babes found bacilli and cocci in the synovial fluid of a patient who died during the course of an acute rheumatism from intercurrent nephritis. Observers have found other micro-organisms in various fluids of rheumatic patients who had succumbed to some complication. All of these were isolated observations until the beginning of the present decade, when Bouchard and Charrin found various forms of staphylococci in six different cases in the synovial fluid of patients suffering from rheumatism. Shortly afterward Achalme found an anaerobic bacillus in the tissues of two cases. A third case of the same kind was noted the next year. Other investigators failed in a number of cases to find the micro-organism described by Achalme, though one or two confirmed his results. Triboulet and Coyon found a series of micro-organisms in rheumatic patients, occasionally staphylococci, sometimes streptococci, in rare cases Achalme's bacillus, and almost constantly a diplococcus. In eleven consecutive cases of acute articular rheumatism that came under their observation in succession, some of them severe, others comparatively mild, this diplococcus was found. Cultures made from the blood always resulted in the growth of this germ, which they consider the cause of rheumatism. Intravenous injection of this diplococcus into animals always causes endocarditis of the left side of the heart, especially of the mitral valve. German observers, as a rule, have not found micro-organisms in the blood or in the secretions. Singer, it is true, found various micro-organisms in the synovial fluid in the blood and in the urine of patients suffering from rheumatism, but only in a small proportion of cases. His results were not substantiated by Chvostek, who is a careful observer. The blood in all of sixteen cases examined by Chvostek was uniformly sterile; only once was the articular fluid removed from rheumatic joints found to contain bacteria. These proved to be bacilli, but scant in number. Some years ago Leyden and the assistants in his clinic found a diplococcus in rheumatism; Senator found a streptococcus. The only micro-organism which may be considered to have sufficient evidence in its favor to justify its being considered as a frequent cause of rheumatism is the diplococcus form. Even this, however, has not been found often enough to justify any definite conclusion as to its specific pathogeneity.

RHEUMATISM NOT A SIMPLE DISEASE ENTITY.

Several important deductions may be made from the multiplicity of the micro-organisms that have been found by different observers. It is clear, even from clinical observation, that acute articular rheumatism as we know it is not a simple nosological entity, but is probably a series of similar diseases more or less closely related to one another. The term "pneumonia" a quarter of a century ago embraced a number of affections that we can now easily differentiate from each other. The ordinary self-limited acute arthritis, which usually terminates of itself in from ten to fourteen days, is perhaps due to the diplococcus found so often. Cases that run a longer course, and prove intractable, are due to other forms of bacterial life, or are complicated by

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secondary infection. The rapidly fatal cases of rheumatism with high temperature, coma and collapse, of which quite a few have been reported by various observers, are probably due to the anaerobic bacillus described by Achalme.

THE ACID DIATHESIS IN RHEUMATISM.

If we are to accept rheumatism as an infectious disease with a bacterial cause, the question arises, has the acid diathesis, which meant so much for a preceding generation, in the production of rheumatism, no effect in the etiology of the disease? There are those who, like Haig in England, still insist that the uric-acid diathesis is the constitutional basis of all rheumatic manifestations. This view has long been abandoned by most of the profession. For many of the older practitioners lactic acid is still supposed to play an important rôle in the causation of rheumatism. It is hard to understand on what the conviction of the etiologic importance of lactic acid is based. The feeding of lactic acid to animals does produce joint lesions, but very different from those of acute arthritis. Lactic acid has been used in considerable quantities in recent years as a remedy for diabetes, but it has never been known especially to predispose diabetics to arthritic manifestations.

The idea of an acid diathesis in rheumatism seems to be founded on a series of misconceptions. The urine of rheumatism is said to be acid. Yet there are those is the urine of any febrile condition. The perspiration of rheumatism is said to be acid. Yet there are those who say that it is alkaline when recently exuded, and only acid after standing. There are others who insist that it is originally acid. The only solution of the question seems to be that sometimes the sweat of rheumatism is acid and sometimes it is neutral or alkaline.

It seems interesting to note that if the blood in rheumatism is acid, as it is said to be by many, it would prove a much less favorable culture-medium for microorganisms than when in its normal condition. Most of the ordinary pyogenic cocci either do not grow on an acid culture-medium, or grow much less luxuriantly and with lessened virulence. It is possible, then, that the hyperacidity of the blood is a protective reaction on the part of nature. The reason why pyogenic cocci in the circulation do not produce pyemia is perhaps because their growth is inhibited in numbers and in vitality by the acid medium in which they are. The alkali treatment as ordinarily given in rheumatism would then be a simple undoing of nature's protective process. As there are many who seem to doubt that the alkali treatment does any good, this makes the question of its employment rather serious.

SELF-LIMITATION AND LOW MORTALITY.

Next to its being an infectious disease, the most important thing about rheumatism is that it is self-limited. This feature has been as much overlooked as its infectious origin. To Austin Flint, according to Professor Osler, belongs the credit of having first pointed this out. Notwithstanding the many remedies recommended for its treatment, rheumatism, like the other infectious diseases, remains practically uninfluenced in its course by any remedy. Symptoms, especially the pain and the fever, may be very much alleviated, but the duration is probably very little, if at all, affected by any treatment.

Rheumatism is a disease which is very seldom fatal. Professor Pribram, of Prag, has had under his care in the last sixteen years 627 cases. Of these, but six proved fatal; only one from hyperpyrexia. This was the only case in which the complication that brought about death could with any assurance be attributed to the rheumatism itself. Of the five other cases, one died from tuberculosis of the lungs, two from nephritis and uremia, one from pneumonia, and one from sepsis including osteomyelitis and metastatic abscesses. The mortality of the disease itself is probably not more than .1 per cent.

HEART COMPLICATIONS.

Professor Osler thinks that the number of heart complications in rheumatism is grossly exaggerated. In 209 cases carefully examined for this purpose he found only 24 endocardial involvements, while French writers give as high as 65 per cent. Vernal, as the result of several hundred observations, gives the percentage in the rheumatism of children as more than 80 per cent.; Church, 67 per cent. in cases between 10 and 20 years of age, and 54 per cent. between the ages of 20 and 30 years. Hirsch found 52 per cent. between the ages of 16 and 20, 65 per cent. between 21 and 25, 50 per cent. between 26 and 30, and 83 per cent. between 31 and 35. Pribram, to whom I owe these figures, and whose monograph on acute rheumatism in Nothnagel's "Specielle Pathologie und Therapie" shows how thoroughly he has reviewed the literature of the subject, besides having a very practical acquaintance with the affection clinically, gives the average number of heart complications in primary attacks of acute rheumatism as from 38 to 40 per cent. In this he includes about 5 per cent. of pericardial complications.

How often chronic endocarditis is due to rheumatism is quite as interesting a question, and perhaps even more important. The statistics as to the rheumatic origin of chronic endocarditis are quite as indefinite in their way as those of percentage of heart complications that occur from rheumatism. Once more the French authorities give the highest numbers. Seventy per cent. of all cases of endocarditis are said to be due to rheumatism. All infectious fevers may cause endocardial involvement. In taking the history of a patient with a heart lesion, we all realize, especially in recent years, how important it is to consider rheumatism.

TREATMENT.

At the end of the last century, to a student who asked what was the best thing for rheumatism, Corrigan, the distinguished Irish surgeon, said, "Six weeks." During the first half of the century the medical profession, in England particularly, believed very firmly in the efficacy of the alkali treatment. About 1860 the coal-tar colors were found, and among other members of the coal-tar derivative group was salicylic acid, which proved on trial to have a remarkable effect in alleviating the symptoms of rheumatism. Something that is not generally remembered, however, is that an extract of the willow tree had been in use in England for nearly a century as a useful remedy for rheumatism. About the time that salicylic acid became so popular in Germany, salicin acquired a reputation in England.

It is the custom to say that the course of rheumatism has been very much shortened and all of its symptoms alleviated much sooner by treatment with the salicylates than by any treatment employed before the introduction of salicylic acid and its derivatives into therapeutics. There is a very interesting table that presents the facts concerning the influence of salicylic acid and its derivatives on rheumatism as they were observed during eight years at the city hospital in Berlin. For alternate periods varying between half a year and a year and a quarter the salicylate treatment and so-called indif-

ferent treatment were employed in all cases of rheumatism. The alternations from one method of treatment to the other were made deliberately with the idea of counteracting any influence that the season of the year or the special epidemic virulence of rheumatism at any period might have in making cases of the disease more intractable or more persistent. Altogether, 148 cases were treated with the salicylates and 106 with indifferent remedies; that is, iodid of potassium and the alkalies, with whatever other drugs might seem to be indicated by the symptoms.

	Salicylates. Days.	Indifferent Treatment. Days.
Duration of the treatment until the cessation of the fever	4.2	6.5
Duration of the disease until the cessation of the fever	11.6	15.0
Duration of the treatment until the cessation of pain	8.7	9.3
Duration of the disease until the cessation of pain	16.4	18.0

Relapses, under salicylates, 31.3 per cent.; under indifferent treatment, 13.2 per cent.

Heart complications, under salicylates, 17.6 per cent; under indifferent treatment, 16.4 per cent.

Length of stay in the hospital, under salicylates, 36. days; under indifferent treatment, 34.5 days.

As the mortality is practically nil, the important consideration is the avoidance of heart complications. This salicylic acid was said to do very effectually. Experience, however, has not justified this claim. The general evidence of the English collective investigation committee, as quoted by Cheadle, is that cardiac complications are less frequent and less pronounced under full alkaline treatment than by any other method. Pribram says that, while salicylic acid is the best remedy for the relief of the symptoms of rheumatism, it neither shortens the course of the disease nor lessens the number and severity of the heart complications.

Salicylic acid received its reputation in Germany, hence it is interesting to note the present situation there. It was in Senator's clinic that the original work with the drug was done, yet Senator himself said, two years ago, that salicylic acid is not a specific for rheumatism, but that it does relieve the symptoms, lessen the pain and lower the fever. Other coal-tar products, however, accomplish this purpose, and it is only that salicylic acid seems to be less objectionable than other antipyretic analgesics that it is to be preferred.

In Leyden's clinic at the Charité the routine treatment of rheumatism is with antipyrin. Four to six grams are given on the day that the patient enters the hospital and the same amount repeated the next day. This usually does away with fever and pain completely. Then a gram and a half to two grams are given each day for some weeks. Gerhardt occupies a middle position between Leyden and Senator. He thinks that any of the coal-tar antipyretics should be used, but prefers phenacetin. If this fails to relieve the symptoms, antipyrin is given, or one of the salicylates.

This would seem an unsuitable treatment here, where a strong prejudice exists against the use of antipyrin. To administer it in rheumatism where heart complications are feared would seem foolish. Leyden and Gerhardt, both heart specialists, are convinced that antipyrin, far from increasing the liability to heart complications rather diminishes it. It lowers the temperature and the pain, and so brings down the pulse-rate. Anything that reduces the work the heart has to do lessens the tendency to the production of heart lesions. There are undoubtedly cases in which antipyrin acts as a serious depressant to the heart and the circulation. Notwithstanding very alarming symptoms, deaths from the drug are very few. The occurrence of symptoms seems to be due not to the amount of the drug ingested, but to an idiosyncrasy for it.

I would not, however, be considered as an advocate of the antipyrin treatment of rheumatism. I wish merely to insist that we have not in the salicylates a specific, but only a remedy that relieves pain and fever. Almost any other of the antipyretics will do this quite as effectually.

It is probable that none of the antipyretics have eventually done good in the treatment of rheumatism. The relief of symptoms has allowed patients to get up and be around much sooner than would be the case if the disease ran its course undisturbed by antipyretics or analgesics. In England, particularly, a number of prominent clinicians insist that relapses are more frequent after the salicylic treatment of rheumatism and that the heart complications, instead of being less, are at least as frequent, and probably more severe.

Rest is the most important indication for the heart complications. The heart of a normal person walking is ten beats faster per minute than if he is lying down, which means one-seventh more work. Maclagen says that in England only one-half as many heart complications are noted in rheumatic cases that have been in bed from the beginning of the attack as in those who have been up and around for some time. There is an old prejudice, and a most unfortunate one, that will-power may enable one to throw off disease, or at least to diminish its severity.

The treatment for rheumatism is rest, not alone during the active stage of the disease, but for weeks afterward if there has been any heart complication. The old indifferent treatment is a precious heritage which is uniformly too much neglected. There is no doubt that the deposit on the valves of the heart may in its early and plastic stage be much influenced by the resorbent properties of the iodids. Its careful administration for weeks after an attack of acute rheumatism, while the patient is kept absolutely in bed, would do more to reduce the mortality from heart disease, which is so striking a feature of modern life, than all the vaunted specifics that the manufacturing chemists turn out. Since the public generally have come to realize the value of the antipyretics in the treatment of painful conditions of any kind, many of the milder cases of rheumatism run their course without professional assistance. The result is the development of many an unsuspected heart lesion for which a few years afterward it is extremely difficult to find an adequate reason.

"Prevention of Heart Complications." This is the favorite slogan of the advocates of each new remedy and newest method of treating rheumatism. If it could be accomplished, rheumatism would be much less to be feared than any infectious disease we have. It would be a painful episode in life and nothing more. As a matter of fact, however, no method of treatment so far introduced seems to have any influence in limiting either the number or the severity of heart complications. It is doubtful even if the endocarditis and pericarditis which develop in the course of rheumatism are really a complication. There are undoubtedly cases in which either rheumatic endocarditis or pericarditis occurs and runs its course without accompanying arthritic lesions. When rheumatism appears in one joint, there is no method of treatment which gives any assurance of pre-

venting it affecting other joints. The heart and its serous coverings occupy a corresponding place in rheumatism to that of the joints. It is interesting to note that the rheumatic affection always appears on a particular side of the valves of the heart and is limited to the left heart. The rheumatic process always begins at the point where the valve leaflets touch one another, on the auricular side of the mitral valve, on the ventricular side of the aortic valve. When it appears on the ventricular endocardium it is at points where the valves touch it when they are drawn back. The rheumatic process in the joints occurs in serous surfaces that are also in contact with one another. It is only on the contact points, the joints of the heart, so to say, that the so-called rheumatic complication occurs. Rheumatism in the heart is really not a complication, but is as much of the essence of the disease as is its occurrence at contact points on the serous surfaces of the joints. Until we can get some remedy which will control rheumatism and prevent its spread from joint to joint, or act as a prophylactic against the development of the disease as soon as its preliminary symptoms are manifest, we can scarcely hope to prevent rheumatic heart complications.

THE HEART IN ACUTE RHEUMATISM.*

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As long ago as 1870, Sir Thomas Watson, in his wonderfully clear lectures, one of the greatest works on medicine published, says: "In truth, acute rheumatism is a blood disease. The circulating blood carries with it a poisonous material, which by virtue of some mutual or elective affinity, falls upon the fibrous tissues in particular, visiting them and quitting them with a variableness that resembles caprice, but is ruled, no doubt, by definite laws, to use, as yet, unknown."

In our actual knowledge of the materies morbi of this particular disease we have made no material advance in the last thirty years. Flint, in 1881, said: "A special predisposition is requisite; in other words, the disease involves a rheumatic diathesis. This predisposition may be congenital and inherited, or it may be acquired. Statistics establish conclusively the hereditary transmission of the disease. When we recall, however, that at that time statistics also "established conclusively the hereditary transmission" of tuberculosis and that in the light of modern science these conclusions have been shown to be erroneous, we are justified in doubting the "conclusive establishment of the hereditary transmission of rheumatism."

Lyman, in Pepper's "System," says: "Hereditary causes exert an important influence upon the occurrence of articular rheumatism—so far as statistics have been collected, it seems probable that from one-quarter to one-third of those afflicted are the descendants of rheumatic ancestors." The same author says: "The question of an infective cause for acute rheumatism has not been decided. Many of the symptoms of the disease and its mode of prevalence seem to be indicative of an infective cause. There is, however, no satisfactory evidence of the transmissibility of the disease from one person to another, nor has any infective micro-organism been discovered that can excite symptoms of rheumatism."

In Allbutt's system, Dr. Church, in the article on acute rheumatism, says: "Although no satisfactory evidence has as yet been procured of the constant presence of any single specific micro-organism, yet in not a few of its features the whole course of rheumatic fever resembles an infective disease." In the course of his review of the etiology of acute rheumatism, Osler says: "In the character of the fever, the mode of involvement of the joints, the tendency to relapse, the sweats, the anemia, the leucocytosis and, above all, the great liability to endocarditis and involvement of the serous membranes, acute rheumatic fever resembles pyemia very closely and may, indeed, be taken as the very type of an acute infection."

After a careful study of the various hypotheses as to the nature and cause of acute rheumatism, MacLagan, in the 'Twentieth Century Practice," says: "It is in connection with the pathogenesis of rheumatic fever that we have been led to consider the nature and mode of action of malaria. We believe the rheumatic poison to be malarial in nature. If it be so, it is a minute parasitic organism whose morbific action, like that of other malarial poisons, is dependent on its growth and reproduction in the system."

Thus we see from this brief review that the trend of opinion is toward the infectious nature of the disease, as Packard says, in his résumé of the subject, in *Progressive Medicine, for* March, 1900: "Rheumatism is a disease produced by external agencies. While in many instances it seems to result from exposure to cold or wet, alone or in combination, there is no way by which we can explain the action of these factors, except by their lowering the vitality and permitting the invasion of the body as is held to be the case with other well-known infections." Of the specific infectious nature of acute rheumatism the writer has no doubt. One of the peculiarities of this infection is that it invades the heart, and particularly the valves of the heart, with much greater frequency than any of the other acute infections, with the possible exception of chorea and pyemia. The possible etiological relation of these three diseases is most interesting, but it it not my function to discuss it.

As to the frequency with which morbid changes occur in the heart in association with acute rheumatism, a review of the literature of the subject, together with my own experience, brings me to the conclusion that endocarditis occurs in fully 60 per cent. of the cases, pericarditis occurs in about 10 per cent. Statistics and observations as to the occurrence of myocarditis are lacking and must always be a subject of doubt, as the data of its occurrence are dependent almost entirely on clinical observations, as so few cases of acute rheumatism come to autopsy during the acute stage and the myocardial changes associated with old endocardial deformities may be dependent on so many other concomitant causes as to be thrown out of consideration. Moreover, the recognition of myocarditis during life is exceedingly difficult. Nevertheless, it is the opinion of the writer that myocarditis occurs in conjunction with all cases of pericarditis and in conjunction with many cases of endocarditis, is present in not a few cases where neither endocarditis or pericarditis is present, and sometimes is wrongly diagnosed as endocarditis.

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All observers agree that the younger the patient the greater the liability to the cardiac involvement, and if we limit our statistics to the first thirty years of life the percentages of cardiac involvement are much greater and the statement of Sir Thomas Watson, that "with perhaps two exceptions he never knew the disease to occur in an unequivocal form before puberty without its being attended with inflammation of the lining or of the investing membrane of the heart," can be corroborated by most of us.

The interesting fact that the endocardium, the myocardium and the pericardium are attacked so frequently in acute rheumatism can only be satisfactorily accounted for by recognizing the infectious nature of the disease and that these morbid changes are the result either of the direct action of the infecting organism or of that of the toxins produced by it during its metabolism or of both.

The morbid changes in acute rheumatism are found to begin in the fibrous structure of the joints and in the muscles and extend thence to the contiguous structure. In the heart we find the morbid process beginning either in the fibrous structure and extending thence to the muscular and serous, or beginning in the muscular structure, to which it may be limited or from which it may extend to the fibrous and serous structures. Confining our observation to the endocardium we find that the mitral valve is the most common seat of disease and the morbid changes present are thickening of the fibrous layer—between the serous reflections—and the development on the auricular surface of the valve, a short distance from its free edge, of a roughening of the serous membrane and the outgrowth from this region of little verrucose bodies which are firm and fibrous at their bases but are capped with soft fibrin, leucocytes and usually some bacteria —most often those of the pyogenic nature. These substances are undoubtedly deposited from the current of the blood. On the aortic valve the thickening takes place on the ventricular side at that portion—as originally observed by Watson—where the fibrous structure ceases, beyond which there is only the reduplication of the endothelium, and here we have the roughened surface and warty developments as on the mitral valve.

It is seldom that other parts of the endocardium are involved in acute rheumatic endocarditis; but when it does occur, next in frequency to the valvular involvement is that of the chordæ tendineæ. Here, too, is observed thickening and occasionally the verrucose bodies. If other portions of the endocardium are involved it is usually at such parts as are roughened by contact with already diseased valve or chordæ tendineæ.

The right side of the heart is very rarely attacked by the rheumatic poison. When it is, the pulmonary valve is the most common seat of the disease, and next the tricuspid, in relatively the same places as the aortic and mitral.

As to the morbid anatomy of rheumatic pericarditis the disease is usually serofibrinous in nature and occurs in either a circumscribed or diffuse form, but even when occurring in the latter form it usually begins at one part and extends to the whole.

The parts at which the circumscribed pericarditis occurs are the base of the heart near the origin of the great vessels, the parts of the pericardium lying beneath the 4th and 5th ribs and the interspace between and the cardiac layer opposite and that portion of the pericardium upon and opposite the apex of the heart.

From any of these points the inflammation may become diffused and in most cases does so. The anatomical changes are hyperemia and serous exudation into the subserous layer of the pericardium, that is, the subjacent myocardial cells of the heart in the visceral pericardium, followed by dimming of luster of serous surfaces, denudation of the epithelium, exudation of plastic lymph and production of the so-called "buttered" appearance and the adhesion of the visceral to the parietal layers, or the separation of the layers by the exudation of serum and its final absorption and the adherence of the two surfaces either in part or in whole by firm fibrous union. As to rheumatic myocarditis, the morbid change is one of parenchymatous degeneration, granular or fatty. It is usually associated with pericarditis or endocarditis as has been said, but does undoubtedly occur independently of either. Dr. S. West has reported instances of acute dilatation in association with rheumatism, one of which came to autopsy revealing marked fatty changes in the muscle-fibers.

Dr. Poynton has shown that the myocarditis which accompanies pericarditis is not an extension of the inflammation from the pericardium to the myocardium, but that there is granular and fatty degeneration of the cardiac muscle due to the toxic effects of the rheumatic poison, as well as actual destruction of muscle-fibers by inflammatory exudation.

Broadbent says that it occurs with all classes of endocarditis, and Flint believes that it occurs with all cases of pericarditis. Senator says that a certain degree of myocarditis is associated with all cases of rheumatic endocarditis and pericarditis. The late Dr. Sturges said that carditis is the proper term to apply to the cardiac inflammation accompanying rheumatism, for always two, and generally all three of the structures are involved. Excepting in cases associated with pericarditis—and even in some of these—the part of the myocardium to be first involved is, in the opinion of the writer, the musculi papillares to which the chordæ tendineæ are attached. The grounds on which this opinion is based are clinical and inferential, as I have never, unfortunately, had a case of acute articular rheumatism come to autopsy.

Myocarditis.—In proceeding to the consideration of the clinical phenomena of the cardiac manifestations of acute rheumatism I shall call your attention first to that which I believe to be the most common, viz., myocarditis. A careful observer who examines the pericardium every day while in attendance on a case of acute rheumatism, will discover any cardiac involvement from the physical signs before any symptoms show themselves. I shall therefore first call attention to the physical signs indicative of acute myocarditis.

From inspection and palpation, we generally learn nothing until the disease is far enough advanced to interfere with the muscular activity. Then the signs are, decided weakening, advancing to disappearance of cardiac impulse. On careful daily percussion of the precordium, even before the preceding signs show themselves, there can generally be marked out a slight increase of cardiac dulness to the left, at about the level of the nipple or a little below it, even before the apex is materially displaced.

But the chief reliance is to be placed on auscultation, and I firmly believe that the soft systolic murmur heard at the apex and over the body of the ventricle, generally not transmitted very far toward the axilla, is due to the myocardial change in the musculi papillares to which the chordæ tendineæ are attached.

Permit me here to relate the following case:

M. L. entered the Buffalo General Hospital Jan. 25, 1891, suffering from acute articular rheumatism, involving the joints of both hands, both wrists and one elbow. His temperature ranged between 103 and 105 F. Examination of his chest revealed a blowing systolic murmur heard at the apex and transmitted to the axilla. His treatment was rest in bed, milk diet, salicin and alkalies. His fever had subsided in a week, and his joint pains persisted for a while longer. The murmur disappeared February 22. He was kept in bed for ten days longer, however. March 4, examination of the precordium showed normal heart-sounds of good strength and proper rhythm.

I have five other cases of mitral insufficiency occurring in acute rheumatism in which, under rest, sodium salicylate and, eventually, iron and strychnin, the murmur has entirely disappeared and remained absent.

My grounds for the belief that this murmur is myocardial and not endocardial in origin, are as follows: In order that a systolic murmur may be produced by endocarditis involving the mitral valve there must be enough deformity of valve to allow of regurgitation. This deformity must come either through the interference with the closure of the valve by the verrucose bodies on the leaflets or through deformity of the leaflets from irregular swellings or contraction of the fibrous tissue entering into their structure or that of the chordæ tendineæ. These last are late developments in the structural changes that go on in the valves, and may, I think, be dismissed without further consideration.

The development of the verrucose bodies presupposes an inflamed surface of valve on which the fibrinous deposit takes place from the blood. Moreover, these verrucose bodies must attain sufficient size to interfere with the proper closure of the valve. Now, if we remember that these bodies are developed, not on the free edge, but a little back of it on the auricular side of the valve, it is readily understood that they must attain considerable size before they interfere with the closure of the valve and in all probability must have developed the fibrous structure of their bases or, in other words, have become organized. Now, it seems to the writer that it is more rational to suppose that the systolic mitral murmur which appears so early in rheumatism is really dependent on a yielding of the valve because of lack of power to hold the valves in place through the weakening of the fibers of the musculi papillares to which the chordæ tendineæ are attached.

We have abundant evidence that a mitral systolic murmur can arise in this way if we will turn our attention for a few minutes to the mechanism of this cardiac murmur occurring in anemia and in some of the other acute infections besides rheumatism. The study of the heart in pernicious anemia and in the graver secondary anemias show, as a rule, no morbid change in the endocardium, but marked degenerative changes in the myocardium. These changes, according to Balfour, are always decidedly more advanced in the musculi papillares to which the chordæ tendineæ are attached. That we may have a mitral regurgitant murmur due to acute fatty degeneration, the result of infectious toxemia, is illustrated by a case of typhoid fever which came under my observation several years ago, in which a mitral regurgitant murmur developed in the third week, and continued to be heard until the patient's death, a week later. The autopsy showed no valvular or endocardial disease whatever, and no dilatation of the ventricular cavities, but did show a markedly fatty condition of the heart muscle. In this case there was no way of accounting for the murmur except that just indicated. If we may have a mitral regurgitant murmur resulting from myocardial change the result of anemia or of acute infectious toxemia we can rationally believe it to be present in rheumatism in which there are present the toxemia of the disease and the anemia that is invariably associated with it.

The further evidences of progressive myocarditis are weakening of the first sound, which loses its muscular quality and becomes short and high in pitch. At the same time occurs accentuation of the pulmonary; then disappearance of the aortic and usually at such time disappearance of the murmur also, and finally disappearance of the pulmonary, so that no heart sounds are heard at all, or only occasionally, and when they are heard the first sound is not to be distinguished from the second in length, pitch or quality. The distinction can sometimes be made from the points of greatest intensity of sound.

The following case illustrates the fact that aortic murmurs may arise even when not due to the actual valvular deformity:

On Feb. 3, 1891, E. McD. entered the Buffalo General Hospital, suffering from an attack of acute articular rheumatism. The joints involved were one hip and the joint of one arm. He gave a history of previous attacks. Examination of the precordium revealed an enlarged and dilated heart, an aortic obstructive and mitral regurgitant murmur and occasionally an aortic regurgitant and a mitral obstructive murmur.

On March 2, four weeks later, the examination revealed the heart somewhat enlarged, the mitral regurgitant murmur still present, and, on rapid movement of the arms or rapid respiration, the mitral direct murmur also, but both of the aortic murmurs had disappeared.

Evidently aortic murmurs that could disappear in four weeks could not be due to any actual deformity. The mechanism in this case too can be rationally attributed to the weakened heart muscle. Normally at the systole, the blood is driven with such force through the aortic orifice that the semilunar valves are flattened back against the aortic wall and offer no obstruction to the outflowing blood. When, however, as in this case, we have a weakened ventricular contraction and a mitral regurgitation too, the force with which the blood is driven through the orifice is diminished, the aortic valves hang out into the lumen of the vessel and form obstruction sufficient to produce the murmur. Regurgitation through the aortic orifice is prevented in the normal condition, by the fact that the semilunar valves fit exactly together when they clap back during the ventricular diastole, provided that the musculofibrous ring to which they are attached at the aortic orifice gives them the necessary support. If, however, as I have no doubt was the condition in this case, the musculofibrous ring is weakened by albuminoid or fatty change, it does not give the necessary support and when the back pressure is produced by the rebound of the column of blood in the aorta, it allows the valves to give way and permit regurgitation into the ventricle.

Endocarditis.—As regards symptoms, the statement made in regard to myocarditis is likewise true in regard to endocarditis. Symptoms of this condition usually

develop only after the condition has already been discovered by physical signs.

A systolic murmur heard at the apex, as I have said, I believe usually to be due to myocarditis, but undoubtedly many times we have endocarditis associated. Under these circumstances the murmur is apt to be harsher in quality and to be transmitted farther into the axilla and heard behind in the left interscapular region and about the lower angle of the scapula. Moreover, the murmur persists and maintains its intensity, while the myocardial murmur varies in its intensity and with improvement in the case usually disappears. Occasionally we have a diastolic murmur at the apex or a little above it, indicating mitral obstruction. It is usually associated with a systolic murmur and, so far as I know, has not been observed as a primary lesion in any case of acute rheumatism. When this lesion is present a faint thrill can usually be felt in a limited area above the apex and a little to the right of it.

A systolic murmur heard in the aortic area in acute rheumatism I believe is almost always due to obstruction at that orifice either from thickening of the valve or from the presence of the verrucose bodies on its ventricular surface, though, that it may occasionally occur without an organic change is illustrated by the case just related.

Aortic insufficiency may also occur, but it is rare in the acute stage and is usually associated with obstruction. There is always some cardiac enlargement associated with this lesion and usually dilatation of the left ventricle. The signs are diastolic thrill felt over the sternum at the junction of the manubrium and gladiolus and over the third and fourth left interspaces near the left edge of the sternum. A diastolic murmur is heard in these same regions; it can also usually be heard in the second right interspace and sometimes at the apex of the heart. It is usually decidedly harsh in quality, though occasionally is soft. The capillary pulse and the peculiar water-hammer characteristic of the pulse in the arteries should, of course, always be mentioned as associated with this lesion.

Lesions of the right side of the heart are so rare that mention of them could very well be omitted. Proof is lacking, to my mind, that the right-sided endocarditis occurring in intrauterine life is rheumatic in origin. The diagnosis of endocarditis of the right heart is made by the recognition of the murmurs originating at the tricuspid and the pulmonary valves respectively. I mention them here only to call attention to the fact that sometimes the murmur resulting from aortic obstruction is heard with greater intensity on the left than on the right side of the sternum, but that it is always transmitted to the carotid arteries, whereas, the murmur arising from obstruction at the pulmonary orifice is never so transmitted, and the murmur of mitral insufficiency is sometimes heard at the pulmonary orifice or a little to the left of it.

Aside from physical signs the only symptom of acute endocarditis worthy of mention as diagnostic of this condition is embolism, which sometimes results from the sweeping off of the film deposit from the verrucose bodies on the valves. These emboli are usually carried to the head, but may go to any part of the body. To even refer to the symptoms of embolism would carry me beyond the scope of my part of the discussion.

Pericarditis.—This, simply from the relative infrequency of its occurrence, I think should be classed among the complications of acute rheumatism. Its diagnosis is often exceedingly difficult, while more often it is very easy. As the symptoms are so varied in different cases and in some cases are very severe, while in others they are entirely absent, I shall call attention first to the physical signs, especially as on them we ultimately depend for diagnosis in all cases. The first of these to appear is usually a soft to-and-fro friction-sound usually heard best at the base. Often it is difficult to say whether an abnormal sound is endocardial or pericardial in origin, but I have learned to be very suspicious of sounds arising at the base of the heart during the acute stage of rheumatism. Almost invariably—even when heard with only one sound—they are pericardial in origin. This is particularly true of that heard with the second sound and of that heard in the pulmonary area systolic in time and not transmitted to the carotids.

The next most common place for the friction-sound to be heard, is over the left third and fourth interspaces near the edge of the sternum, where it may be mistaken for tricuspid murmur or for that of aortic regurgitation.

Occasionally it can be heard at the apex itself or along the left edge of the heart above the apex. In this region it may be mistaken for mitral murmurs. The evidences of effusion by physical signs are first a weakening of the first sound of the heart, next the occurrence of dulness in the semilunar space. This dulness is sometimes present with the patient in the upright position, disappearing two or three minutes after the patient lies down on the back. Sometimes before, more often shortly after, the occurrence of dulness in the semilunar space, dulness appears at the base of the heart, sometimes most pronounced on the left side in the second and third intercostal spaces, more often on the right of the sternum in the second and sometimes up into the first intercostal space. While this dulness is pronounced in the recumbent position, it sometimes disappears shortly after the upright position has been assumed. This movement of the fluid in pericarditis is always slow and takes two or more minutes for its accomplishment. Finally, when there is considerable fluid present, the area of dulness assumes the oft-described pyriform shape with the base at the diaphragm. Sometimes the amount of fluid is enormous; more often it is only 100 or 200 c.c. I have never observed the separation of the left clavicle from the first rib, as described by some observers.

With the increase in the amount of fluid the physical signs obtained by inspection, palpation and auscultation change materially, as well as those obtained by percussion.

We notice the apparent elevation of the apex-beat and its gradual complete disappearance from view and touch. We notice the disappearance of the friction sound, generally leaving the base of the heart last, and sometimes persisting there throughout the entire stage of effusion. The heart sounds become fainter and gradually disappear, the second sound being usually the last to go. In addition to these distinctly cardiac signs we sometimes get broncho-vesicular or distinctly bronchial breathing in the left interscapular and scapular regions. While the vocal resonance is also somewhat increased in these regions, it is usually not so pronounced as we would be led to expect from the character of the breathing sounds. There is sometimes a hyper-resonance, tympanitic in quality, to be elicited on percussion in the left infrascapular and lower axillary region. Sometimes there is a decided dulness in these regions. The signs of the so-called third stage are

simply those of the gradual absorption of the fluid and the return of friction sound, coarser in quality than in the first degree. Symptoms of acute pericarditis are partly local and partly constitutional. Pain and tenderness in the precordial region are sometimes quite marked. The pain is sometimes decidedly acute and stabbing in character; more often it is a vague and distressing sense of oppression, especially during the stage of effusion. The breathing may be decidedly interfered with; orthopnea and cyanosis may occur. Dysphagia may occur in the first stage, if there is marked posterior inflammation, from the pain induced by the passage of food through the esophagus, and in the second stage from the actual pressure of the fluid on the esophagus. Aphonia may occur from pressure on the recurrent laryngeal as it winds around the aorta. The nervous symptoms may be limited to restlessness; more often they are quite pronounced, especially in children; restlessness, sleeplessness, crying out and wandering in the sleep, delirium sometimes noticeable only on first waking, sometimes becoming very marked, occasionally developing maniacal or suicidal tendencies. Indeed, so marked are the nervous symptoms at times that cases of rheumatic pericarditis have been mistaken for meningitis. Involuntary passage of urine and feces sometimes occurs, and the patient passes into a state closely resembling collapse. "Whenever in acute rheumatism," says Watson, "you find your patient flighty or wandering or more distinctly delirious or afflicted with any form or degree of convulsions, examine carefully the conditions of his heart." Vomiting may occur, and is always a most serious symptom at whatever stage it comes on, and not infrequently it means that the end is not far off.

There is usually increased frequency of pulse, its volume is small and tension low. It sometimes becomes irregular, especially toward the end, and occasionally the pulsus paradoxus develops. The patient's face may be pale, flushed or cyanotic, and often bears a distressed and anxious expression. The temperature is usually slightly elevated, though it rarely goes above 103, and sometimes does not rise at all.

But as said at the beginning, sometimes all of the symptoms are lacking, and we must depend on our physical signs for diagnosis, and while in some cases, seen late in the course of disease, it is exceedingly difficult to differentiate between pericarditis with effusion and dilated heart, if daily examinations of the precordium are made this difficulty will not be encountered.

The prognosis in acute rheumatic endocarditis is usually good so far as immediate results are concerned, except that there may occur central embolism. The serious element is the ultimate resulting valvular deformity and its effect on the musculature of the heart and on the general or the pulmonary circulation and on the general nutrition. In pericarditis there is a distinct element of danger in the effusion. This may become so great that the heart is unable to continue in action, thus causing death, or, even if the effusion is not great enough for such a result, it may still so embarrass the heart's action as to interfere with proper circulation in brain or lungs or kidneys, and thus indirectly lead to serious results. The chief immediate danger in the cardiac manifestations of acute rheumatism is dependent on the extent and character of the myocardial disease. While in the majority of cases of cardiac involvement the myocardial changes are slight, and may be confined to the columnæ carneæ to which the chordæ tendineæ are attached, "in the severe cases of endocarditis, as said by Dreschfeld, "the myocardium shows indurative changes, which may be looked on as due to an extension of the inflammatory process, the fibrous septa and the lymphatic spaces being chiefly involved; even the muscular fibers may show changes partly due to compression and partly to myocarditis." In those cases where pericarditis and endocarditis are both present, there is always, as shown by Sturgis, myocardial involvement. As well said by Broadbent: "It is to the accompanying myocarditis that we must attribute the cardiac dilatation, which is so marked a feature in pericarditis. Probably the chief danger in rheumatic inflammation of the heart, of which pericarditis is a part, lies in the damage to the cardiac muscle." Recognizing the fact that the myocardial involvement is so important an element in the prognosis, it behooves us to do our utmost to diagnose the condition when present. It is not necessary to go over again the points in this condition.

As to the treatment of the cardiac manifestations of acute rheumatism, it does not differ materially from the treatment of the disease on which these manifestations depend. If the salicyl treatment is good for the joint manifestations of the toxemia called rheumatism, it certainly should be just as useful in the cardiac manifestations of the disease. In practice we find that it is, and that to the use of these drugs the cardiac manifestations usually yield as rapidly as do those of the joints. In those cases in which there has been apparent failure I believe it has occurred because the dose was not large enough and the interval between doses was not short enough. Even in cases where there is old valvular disease and marked cardiac hypertrophy with dilatation, the salicyl compounds are most useful and do no harm. This is well illustrated by the following cases.

CASE 1.—In December 1899, there entered the Buffalo General Hospital an Italian carpenter, 24 years of age, who gave a history of acute rheumatism when 7 years of age, and every winter and nearly every June since then; of gonorrhea two years before entrance and of pain in the precordium radiating to left shoulder, arm and hand for the preceding two months. Examination of the precordium showed an area of cardiac dulness from the third left intercostal space, half an inch left of nipple line, upper border of seventh rib, ensiform cartilage, right parasternal line, third right costal cartilage; palpation and auscultation revealed a markedly dilated hypertrophy with double lesions of the mitral valve and double lesion of the aortic valve.

During his stay in the hospital, he developed on January 25, an attack of acute rheumatism, involving the joints of both arms and hands and the right knee and ankle. He was given sodium salicylate in 0.25 gm. without any benefit. He was then placed on methyl salicylate (oil of wintergreen) in 0.6 gm. doses t.i.d. His pulse increased so much in frequency that the medicine was stopped in forty-eight hours. On February 2, he was placed on sodium salicylate in 0.6 gm. doses every four hours and steadily improved. On February 10, his temperature was normal and by the 14th the joint pain and swelling had disappeared. On the 18th he had a slight return of the joint pain and swelling, which disappeared in twenty-four hours. The sodium salicylate was kept up in the 0.6 gm. dose t. i.d. until March 1, when it was changed to 1 gm. daily. His general condition was looked after by the use of baths, carefully selected diet and the administration of iron pyrophosphates and sulphate of strychnin, with the occasional administration of digitalis. On March 26, he was discharged from the hospital; the condition of his heart was better than when he entered, in spite of the fact that he had had an attack of acute rheumatism and had been kept on one or another of the salicyl compounds for six weeks.

The case just related occurred in the service of Dr. Stockton. The next case occurred in my own service at the Sisters of Charity Hospital.

CASE 2.—Walter W., laborer, age 20, American by birth, was admitted to hospital Feb. 15, 1900. Family history was good. Patient had one previous attack of rheumatism four years ago and gonorrhea two years ago. One week before entrance the present attack began. At time of entrance both knees and ankles and right shoulder were involved and patient complained of pain in chest, especially on deep inspiration. Temperature at time of entering was 102.2, pulse 104, respiration 26.

Examination of the chest revealed a heart reaching the left anterior axillary line, the apex in the sixth intercostal space; on the right side dulness extends to a point a half-inch beyond the right border of the sternum. Cardiac impulse is weak and apex-beat is diffused in sixth interspace from anterior axillary line to nipple line.

There is a decided mitral insufficiency; the pulmonary closure is markedly accentuated and the aortic closure is scarcely audible. Here was a decidedly dilated heart with mitral insufficiency. Patient kept absolutely still in bed; after a preliminary dose of calomel followed by Rochelle salts, sodium salicylate was administered in 1 gm. dose every two hours and a salicylic-acid ointment 10 per cent. was applied to the inflamed joints.

February 18 the patient complained of severe pain in the precordium; no pericardial friction was noticeable. Treatment was continued and salicylic ointment rubbed into precordium.

February 18, as the pain, swelling and fever persisted the salicylate was increased to 1.25 gm. every two hours through the day, and four hours through the night. This was continued until February 22, when temperature reached 99 and pulse had fallen to 92, when the same dose was given t. i. d. On the 24th, it was made 0.75 gm., and on the 26th 0.50. At the same time he was given an alkaline mixture ante cibum, and tinct. ferri chloridi 1 c.c. post cibum. On March 3 the salicylate was discontinued and tinct. nucis vomicæ was given in 1 c.c. dose ante cibum.

Examination of the chest March 5 showed the area of cardiac dulness decidedly less, the apex being in the fifth interspace, half an inch to the left of the nipple line; the impulse was more powerful and the aortic closure was distinctly audible though still not as loud as the pulmonary.

When I went off duty, April 1, he was sitting up and in very good shape, the pulmonary and aortic sounds balancing each other very well. In this case, although there was greatly dilated heart and possibly the supervention of a pericarditis, the salicylate was given in large doses and was kept up for seventeen days with the very best of results.

Of course, all such cases are to be kept absolutely still in bed, and are kept on liquid—preferably milk diet—150 to 250 c.c. being given at intervals of two to four hours. The bowels are kept open with salines and the sodium salicylate is given in doses of from 1 to 3 gm. every two hours until improvement takes place, and the interval is then gradually extended to three and four hours and then the dose gradually reduced.

In some cases where there are old endocardial lesions not compensated, strychnin should be administered, preferably hypodermically. No case of pericarditis should be allowed to die on account of the amount of effusion present. In a given case of acute rheumatic pericarditis the effusion has generally reached its acme by the sixth day and should then begin to subside. If it does not, or if before the time pronounced symptoms of cardiac disturbance show themselves, paracentesis pericardii should be performed. With physical signs of effusion of some size present, the symptoms which call for the performance of this operation are: marked change in the volume, frequency or rhythm of the pulse, particularly the occurrence of the pulsus paradoxus; marked increase in the frequency of respiration, dyspnea, orthopnea, cyanosis; cough, hiccough or vomiting; difficult or painful swallowing; and the supervention of pronounced nervous symptoms. The operation itself is not difficult to perform. There are one or two things to be said, however, in regard to this operation. First, and most important, it should never be done with a needle, as there is always thus danger of wounding the heart itself, but should be done with a trocar and canula. If the exudate is purulent, aspiration is a mere waste of time, an incision should be made and the pericardium drained and very carefully washed with sterile water. The point of election for the operation should depend somewhat on the preceding signs. If there has not been marked friction-sound at that point, the fourth intercostal space about one inch to the left of the sternum, is the point of election; but if there has been marked friction sound there, there is danger of adhesions having occurred at that place, and this point should not be selected, for fear of wounding the heart. Under these circumstances the fifth or, if the dulness warrants it, the sixth or seventh space should be chosen.

In all cases of acute rheumatism in which has occurred cardiac involvement, whether endocarditis, pericarditis or myocarditis, it is of the utmost importance that rest in bed should be persisted in until the heart sounds have returned to their normal condition and have persisted so for at least a week. During this period of convalescence the restoration to the normal is often greatly hastened by carefully regulated massage, Swedish movements, and sometimes the use of the Schott baths.

By this persistence in rest the murmurs which have appeared often disappear under the improvement in muscle tone, thus maintaining the position taken that many of them are myocardial rather than endocardial in origin, as illustrated by the cases reported.

In concluding the part of this subject allotted to me, I desire to call particular attention to the following points as of the utmost importance and worthy of thorough discussion:

1. Acute rheumatism is an infectious disease.

2. Endocarditis is an integral part of the disease and not a complication.

3. Pericarditis is a complication, just as much as inflammation of any of the other serofibrous membranes, meningitis, pleuritis or peritonitis is, although it occurs more frequently than any of them.

4. Myocarditis is an integral part of the disease, not a complication; occurs much more frequently than is usually supposed; is frequently unrecognized, and is the most serious feature of the disease.

5. The occurrence of endocarditis, pericarditis or myocarditis, or the previous existence of a valvular disease, whether compensated or uncompensated, is no contraindication to the use of the salicyl compounds, but rather an index to push their administration to overcome the toxemia of the disease. Whatever one is chosen, it should be given in sufficiently large doses at sufficiently short intervals.

6. Rest in bed for a sufficiently long time is the most important part of the treatment of the cardiac manifestations of the disease.

CRISTIANI, of Geneva, announces that he has succeeded in transplanting entire lobes of the thyroid body in young rats. The grafts not only retained their vitality in the new conditions, but increased in size by epithelial sprouts from the thyroid alveoles.

EAR DISEASES IN INFANCY AND CHILDHOOD.*

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The statistics which show an infant mortality of from 20 to 25 per cent. before the end of the first year of life are a woeful and terrible comment on the ignorance or carelessness of some one, be it parent, family physician, modern circumstances or environment. Wherever the blame belongs it must soon be known, and a remedy applied which will stop such a sacrifice of human life. Such a record does not comport with modern achievement and advancement, and can not long be tolerated as one of the failures of medicine. In this percentage there is a large, too large, ratio of ear conditions presented as a causal or complicating element in the cause of death.

The ear conditions which are most frequently met with in infancy and childhood are acute middle-ear suppuration with or without its more or less severe and serious complications, impacted cerumen, foreign bodies, furunculosis, granulations, eczema, necrosis, polypi, meningitis, extradural abscess, cerebral abscess and traumatisms.

Of these, it is well known, acute and chronic middle-ear suppuration are by far the most frequent and most important. It occurs much more frequently than all the others combined, if we exclude those conditions which arise as a direct result of the middle-ear difficulty.

The differential diagnosis of each of these conditions is largely a matter of general knowledge; I will hence refer to the symptomatology only as may be necessary to elucidate the discussion.

In many localities a discharge from the baby's ear is looked on as about of the same importance as the eruption of the teeth. It is not unusual to see cases of ear discharge which have been so long neglected by parents that their very odor drives them to seek relief. Too many deaf victims are thus deformed because of this neglect for the aching or "running" ear of childhood; nor is the fault always with the parent. Too often indeed the attention of the family physician has been called to the condition only to be told by him that "it is not a serious matter;" "the use of a little warm water will soon cure it."

Fortunately, however, it is fast becoming a matter of general recognition that these little patients with suppurating ears live constantly under the perilous possibilities of Damoclean swords. We have come to know and realize that when a child complains bitterly of earache it should be put to bed and given a good cathartic, with a hot foot-bath; we know that midle-ear trouble is usually more severe in children than in adults, both because of the weaker resisting powers of the tissues and because of the axiomatic fact that in children the reflexes are more prominent and frequent than in adult life, and with this knowledge we may be able to realize why our diagnoses in these cases are inversely important as they are difficult to make.

As of great importance, and separate from the detail for treatment, I wish to emphasize the value and desirability of establishing in each case, as far as possible, a satisfactory etiological basis for that case. In cases of exanthemata or adenoids this is, of course, a simple matter, but there are cases which are so clouded as to appear quite idiopathic in character, and we are sometimes almost forced to shield ourselves under that gauzy justification "taking cold." In no case in our efforts at cure of any condition of the ear, should we by carelessness allow our treatment to become an etiological factor in any complication of the condition. Traumatisms of the ear, both slight and serious, must always be a class unto themselves, and are amenable to such treatment as the circumstances of the case and the ingenuity of the attending surgeon may suggest.

The classifications of the causes producing prominent ear troubles in children are numerous, but necessarily bear a close resemblance. To Logan's two classes I would add a third, in the following manner:

1. General, as exposure, climatic influences, etc.
2. Exanthemata, typhoid, diphtheria, postnasal pathologies, etc.
3. Traumatisms and foreign bodies in the tympanic cavity.

Hinkel, in concluding a valuable paper on this subject says, 1, earache, however slight, may signify disease of a serious nature; 2, recurring earache in children indicates lymphoid involvement; 3, acute inflammations may be aborted with proper treatment early applied.

Ear pathologies following or resulting from nasal conditions or the acute infectious diseases being the most frequently met with, will be considered briefly.

Phillips, in a study of 350 ear cases, claims that 83 per cent. were complicated by some form of nasal disease. In 72 cases occurring in children, 6 were caused by measles, 25 by adenoids and 4 by scarlet fever. A number of complications, some of them much larger than this, practically corroborate this estimate.

The matter of percentages, however, is not so vital as is the recognition of the fact that the conditions, as adenoids and nasal pathologies generally, as well as the exanthemata, are likely to lead to serious conditions in the ear. This being admitted, and the further axiomatic statement granted, that these cases can be in a large measure controlled or cured, the natural corollary follows that early, proper treatment, surgical or medical, of these conditions will practically prevent complications.

The careful and extensive researches of competent and careful pathologists, as Rohrer, Zaufal, Bezold, Kyle, Randall, Randolph and others, all seem to agree that in the fetid variety of middle-ear suppuration the bacilli are abundant, and also that there is much greater danger of mastoid involvement and severe symptoms in those cases in which the streptococci are found. It is but reasonable, consequently, to urge that the physician having demonstrated the existence of such conditions in the ear, or even in the absence of microscopic proof, having tangible evidence of the probable existence of the streptococci, he should be as solicitous and careful of the case as he would were the same infection existent in some other more accessible or more vital organ of the body.

Streptococcus pyogenes must be acknowledged as one of the most important bacteriological elements in the etiology of acute middle-ear disease. "It has been well established that we often get a mixed infection with this germ in scarlet fever, diphtheria, typhoid, tuberculosis and pneumonia, and hence I think it is an important agent in the production of acute middle-ear troubles."—Allen.

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Invasion of the Eustachian tube is so frequently the result of infection pneumatically produced as to be beyond question a matter of prophylactic control. Purulency in any part of the nasal passage or upper pharynx should direct the physician at once to prophylactic measures.

A careful compilation of almost 1000 cases of middle-ear disease in children, apparently demonstrates that not less than 70 or 75 per cent. will give a history of nasopharyngeal disease. Frankenburg, in an examination of 158 deaf-mutes, found 54 who had a marked adenoid condition. As a rule with the exanthematous and nasopharyngeal diseases of infancy and childhood, the more serious the affection and the younger the child, the more certain is there to be ear disease present.

Hereditary and other diatheses must not be overlooked in the ear diseases of childhood; and while syphilis and tuberculosis are, fortunately, seldom seen as primary ear infections, in childhood, as hereditary factors they may become important in almost any case.

It is well to remember that extensive middle-ear involvement may be present with but little or no evidence in the drum membrane.

Foreign bodies in the ear need not be a source of much trouble if properly treated. Always remember if it be an inanimate object, that it should be removed as easily as it was introduced. A simple syringe will in almost every case remove the trouble. If there be present an insect, a drop or two of ether or chloroform will make it an inanimate object and easily washed out. Cholesteatoma of the ear is not an unknown condition in children. For a most complete histological and pathological discussion I would refer to a paper by Dr. Panse, published in Vienna, in 1897, and translated by Dr. Alderton.

When there is present a correlative inflammatory condition in other contiguous tissues or cavities, then treatment of that condition becomes imperative, lest additional etiological force be added to the primary pathology. In 358 post-mortems of internal ear diseases in children, only 62 were found to be unaffected (Rumbold).

A well-known member of this Association in commenting on these statistics, predicts that practically every one of them came from an infected Eustachian tube, the infection being forced there by a nasal or pharyngeal stenosis.

It would seem quite unnecessary in this connection to intensify the importance of adenoids as a cause of ear trouble, and the absolute necessity for their complete removal when present. More than a double score of recent contributions to medical literature unanimously endorse the statement just made. It would seem that we have quite enough conclusive demonstration of the effect of adenoids and that every physician would now make the presence or absence of adenoids one of the first points in his diagnosis.

It will be generally admitted that few conditions of disease require a more careful, tactful, scrutinizing and intuitive capacity for diagnosis, than do the complicated ear diseases of childhood. This very fact consequently opens for us a field in the way of a more perfect technique in operating, and a more exact detail in diagnosis, which is most inviting. But we must not once overlook the importance of the constitutional, dietetic and hygienic conditions of these patients. Measures for the relief of irregularities in these particulars are most important in many cases. The very fact that frequent cases of purulent ear disease in children do of themselves recover without much treatment is perhaps responsible for some of the neglect which is countenanced by physicians. I am, however, forced to the conclusion that a large part of this absence of exact, positive and reliable knowledge, or this misinformation as is more frequently the case, is due to a lack of correct and detailed anatomical and physiological knowledge on the part of physicians generally. True enough we can not all be expert anatomists, but the practice of to-day demands that each one shall have a more exact idea of the ear and its anatomical relations than merely that it is "a hole in the head through which we hear." This knowledge is all the more important in the case of children, for with them a satisfactory and thorough examination is often quite impossible.

Our prognosis in the ear diseases of children should never be hasty or unwarranted. It will depend on the following conditions:

1. The age and physical condition of the child.
2. The severity of the attack, and if it be a purulent condition, on the seriousness of the concomitant disease which gives rise to the purulency.
3. Whether or not there be brain or sinus involvement pending or threatened.
4. The extent of bone necrosis present when first seen.
5. Nursing.

Treatment.—In the ear troubles of children, and nowhere else so markedly, the rule holds good that the earlier the treatment is begun the better. Surgery will not cure all conditions, nor will it always prove a prophylactic blessing; so also will local applications or constitutional treatment prove an ignis fatuus if always depended on.

If the case be an acute middle-ear involvement, as it is in far the largest percentage of cases, what shall be our method and means of treatment? Much will depend on the circumstances and conditions surrounding that particular case, modified indeed by all of those circumstances which were named as governing our prognosis, and principally in addition will it depend on the causative factors acting in the condition.

Earache in children is always a condition of sufficiently serious import to demand the close attention of both parent and physician. The use of opium in these cases is rarely or never to be advised. It certainly serves to mask the symptoms so that it is often impossible to recognize the approach of a serious condition. The application of heat or cold will usually give quite as much relief from the pain. In the use of the douche care must be taken not to use too much pressure in the stream entering the ear lest the infection be forced into parts previously uninfected; for the same reason the greatest care should be exercised if any remedy of the H_2O_2 series be used for cleansing after the formation of pus.

Ordinarily if the pain is not much relieved within twenty-four hours by the application of heat or cold, then heroic measures must be adopted. Usually there will by such time be present sufficient indications to warrant a paracentesis. That such operation should be done as soon as there is any bulging noted in the tympanum, is now the unanimous verdict of otologists. It would seem that the relief which is almost always afforded by this operation would be a most convincing demonstration of its value even to the most conservative practitioner. Yet we frequently see these cases

only when they have finally burst through and largely destroyed the tympanic membrane, and perhaps also, on account of late or insufficient drainage, impacted the mastoid cavity.

Randall's indications for paracentesis are:

1. Great pain, with bulging of the membrane from contained pus.

2. When the tension of the membrane is high and the bulging even slight.

3. Insufficient drainage through a membrane already ruptured, and danger of extension to the antrum.

4. Excessive and continued pain which is not relieved by hot applications, especially if the tension be very high.

I fail to find any reliable record in recent medical literature of any unfortunate results attributable directly to the operation of paracentesis. I do not maintain that it is as simple and as easy of satisfactory accomplishment as is the opening of a whitlow, nor that it should ever be attempted by one who can not through a speculum get a view of the drum membrane, yet rare, indeed, must be the circumstances in this day when a competent man who has the necessary instruments could not quickly be obtained.

"The good that we are able to accomplish by this operation is simply immeasurable, when we contrast the little patient operated on and restored to its parents with little or no impairment of hearing with the one who has received improper treatment and is suffering from a purulent discharge that seems to bid defiance to every form of treatment; we can not refrain from being enthusiastic over a procedure which marks another advancement in this, the grandest surgical era the world has ever known." (Allen.)

As if in contradistinction to the rules of Randall just referred to, Pierce has given us the negative indications for paracentesis as follows:

1. Presence of fluid in the middle ear without pain or fever.

2. Pain for twenty-four hours with congestion, but without fever or demonstrable presence of fluid.

Either of these conditions I can not but think are met with very rarely, and even when seen, as in the second indication, it is open to question whether or not a paracentesis would not be advisable, if only as a means of depletion for the congestion.

Many of our best authorities urge in this class of cases, and particularly those which tend toward an idiopathic etiology, the use of leeches in order to deplete the congestion so frequently present. I believe, however, that their repeated application will be more frequently necessary than will be the performance of a secondary paracentesis. On the other hand, the leeches will be much more appropriate in a certain number of cases where it may be for any reason difficult or impossible to secure a satisfactory examination of the drum membrane, as it sometimes is in young or intractable children, or where the services of a competent aurist can not be easily obtained.

It would seem that nature herself had given us a valuable endorsement of paracentesis; since by the almost ever-present bulging of the membrane, the presence of a fluid or suppurative process is quite unerringly indicated. In corroboration of this the post-mortem reports of Ponfick and others, made on a large number of children in whom there was middle-ear infection, shows that in a large proportion the drum membrane had not been ruptured, and that in many cases the tympanum was more resistant than was the tympanomastoid partition, thus again arguing the necessity of an early paracentesis.

The paracentesis operation is one so well known to the members of this Section that I will not describe the technique in detail, only to express my approval of the direction and extent of incision as was suggested, I believe by Dr. Myles, that is, the cut being made from the lower edge of the posterior-inferior segment of the tympanum should be extended for some distance upward and outward into the cartilaginous canal, where very frequently there is some bulging of the tissues.

Attempt at politzerization in any of the ear diseases of childhood is mentioned only to be condemned as impractical in almost every conceivable case. So, also, though not so universally, is to be avoided the application of poultices, as tending to produce a soft and spongy condition, or even furunculosis of the soft tissues.

Very much of our success in the treatment of ear diseases in children will depend on the thoroughness with which we examine and treat the nasopharyngeal or pharyngeal pathologies so frequently present as distinct etiological factors in the ear condition. Whether it be some one of the exanthemata, typhoid, purulent rhinitis of childhood, adenoids or tonsillitis, it demands our care and attention as imperatively as the ear condition itself. The appropriate prophylaxis so opportune at this time has already been referred to as most important.

I do not wish to discuss in this connection the comparative merits and objections to the so-called "wet" and "dry" treatment of ear diseases, only to admit that neither is applicable to every case. This much, however, will be unanimously admitted—that pus having formed within or about the tympanic cavity, from whatever cause it may, must find a sufficient means of escape or there will be trouble for the child. As a matter of fact it requires but little inflammatory action to close the Eustachian tubes in a child and when such closure does occur in a condition of middle-ear purulency, then the pus will go either through the membrane or into the mastoid cells.

It is not because of the proportion of fatalities that occur in suppuration of the middle ear that I would urge its particular importance at this time, but rather because of the number of suppurative ears with which we meet in any practice, any one of which is apt to go on to mastoid involvement with sinus or brain complications and death; in addition also should not be forgotten its tendency to recurrence. Furthermore, the disease process may continue for a long time and work irreparable injury before any well-marked symptoms of the seriousness of the condition are made manifest to the degree of forcing the patient to seek the advice of his physician.

Parents should be impressed with the fact that any considerable impairment of the hearing is a most unfortunate condition for a child, and that it is a handicap which can usually, though not always, be prevented. It is a most judicious provision that in many schools the teachers are expected to look after the hearing as well as the eye-sight of the children, and to report to the proper authority any case which gives evidence of ear affection or infirmity.

It is only by a combination of the forces just referred to that we can secure any very marked results in the way of preventing ear infections in children from becoming serious and ofttimes fatal conditions. If it

were possible in each of these cases to have skilled nursing, I am convinced that the proportion of mastoids and brain involvements would be vastly reduced. And while I would not underrate a mother's interest and care, as we ordinarily see it exhibited, yet we know that a severe case will often not get that thoroughness at the mother's hands which is so essential to recover without the major operation.

The diet should at all times be a limited and mild regimen; while the bowels and eliminative functions generally should be exercised to their fullest capacity short of producing weakness.

When we have succeeded in impressing on physicians and parents the relative importance of a discharge from the baby's ear; or of the portentous nature of a continuous earache, and that early and thorough cleansing and antisepsis are always and ever a necessity, then will many of the serious conditions and the unfortunate results of the ear diseases of children be aborted.

A delicate touch and a deft hand and the ability to control and properly and thoroughly examine children are more the gift of nature than possible acquirement; yet much in the way of skill can be acquired which will aid us wonderfully in our efforts at the relief of these little sufferers.

DISCUSSION.

DR. EDWIN PYNCHON, Chicago—I have been very much interested by the Doctor's paper. I might call attention to one little point in regard to the removal of foreign bodies. Injections of warm water are more often recommended than anything else. I will say that I have been infinitely more successful by the discharge of compressed air in the external auditory canal in the removal of foreign bodies than by any other method. I use a very fine-tipped Eustachian catheter which I enter into and press against the roof of the auditory canal so as to allow the air to enter. Any hard body, like a button or little stone or piece of coal can be almost instantly removed in this way. Next as to the dry treatment. Of course it is theoretically all right, and if we can get the bacteria in an absolutely dry place they will die. But I do not believe we can get the ear sufficiently dry to cause them to die, so I use the wet treatment. I furnish a printed sheet of directions, so the patients meet with no difficulty in the use of the wet method. In the treatment of suppurative diseases of the ear, after the drumhead is broken and the discharge is free, my usual direction is that with a fountain syringe, a pint of fluid be used in the treatment of each ear, and it must be as hot as can be comfortably borne. In case there is an odor to the discharge I use a one per cent. carbolized solution. In case there is no odor my custom is to use bicarbonate of soda in strength of one teaspoonful to the pint. Using the douche once or twice a day will not do as much good as when it is repeated six or eight times a day. It is my habit to impress a few things on the patient: 1, that the fall of the fluid must not exceed 4 feet; 2, that a small tip must be used and gently introduced into the opening of the ear, but must not be pressed in with any force, or so as to close the opening or prevent a free escape of the fluid. By this method I have had very fine results. Prior to the rupture of the drum-head I want to call attention to a treatment that I have found to be of value, namely, the filling of the external canal with glycerin whereby the fluid in the tympanum is withdrawn by osmosis, as suggested by Dr. A. H. Andrews, of Chicago. It is usually better to use a 12.5 per cent. solution of phenol in glycerin. I have also used a one per cent. solution of the alkaloid atropia in castor-oil with very good results.

DR. F. J. QUINLAN, New York City—In acute cases where adenoids are present where you can not get an opportunity to remove them by surgical procedures, I know of no better method than to take a Eustachian catheter, wrap the end with cotton saturated with sterile suprarenal extract, and rub the fossa of Rosenmueller and that part of the vault. This acts much like applying leeches to the external structures. Subsequently the zinc chlorid and the silver nitrate is rubbed into the parts and the process subsides. Going on to paracentesis, a few years ago we made the dot, and then we made the puncture and then the incision, and in later years we have found the incision is insufficient since it fills up with the exudate so that within possibly twenty-four hours we have to repeat the procedure. The old incision was made at the point of greatest resistance, regardless of the segment.

DR. L. J. LAUTENBACH, Philadelphia—I wish to speak of this matter of adenoids. You may recall the elaborate measures which have been so commonly adopted. The chief thing to do is first to relieve the adenoids as well as the general symptoms in these cases, and the simpler the method of operating the better. You may do it without telling the patient what you are going to do. The method I stated on this floor last year is the one I have been using since. The reason I began the use of that method is that I believe many of these cases are killed by the anesthetic. Many of us would hesitate to report our most remarkable and unsuccessful cases. Last year I reported my method of removing the adenoids with an artificial finger nail. I clean the parts thoroughly and then do the operation, asking the consent of the parents if I think it wise, and doing the operation without asking their consent if I think it better.

DR. J. H. COULTER, Chicago—Dr. Quinlan and Dr. Pynchon have very kindly completed my paper, and more eloquently than I could have done. I have only used this operation for about two months. Dr. Quinlan informs me that he has used it for over a year. The operation as just described by Dr. Quinlan has given me excellent results, such as I never obtained from the old method making the incision. The incision should, I think, depend somewhat on the prominence of the mucous membrane. A good, free, ample, incision, making a distinct flap is demanded. In that way you will get results that will be surprising to you. With open drainage at the point indicated everything is usually ideal and the results are much more permanent.

I hesitate to say a word at this time concerning adenoids, since I expressed myself perhaps too plainly last year and the year before, on the use of the finger nail in the pharynx. I will only say that no surgeon could use his finger nail in the pharynx of my child with my consent. The man who does the operation in that way must have cultivated a more acute tactile sensibility through his finger nail than I have been able to acquire, or his finger must be of double-jointed construction to accomplish the operation satisfactorily. In find that the introduction of the finger into the nasal pharynx of the child always gives pain. The operation, if such term may be so applied, is, to me at least, unsurgical, and is unsatisfactory. Now, whether it be due to plain awkwardness or want of a cultured and skilful tactile sensation I do not know, but I do know that I can not differentiate, with my finger-end in the pharynx of a small, struggling, gagging child or infant, between the impression given by adenoids and that produced by the folds and soft convolutions of the infantile mucous membrane; nor do I believe the ordinarily skilful operator can do so.

TREATMENT OF SKIN CANCERS WITHOUT OPERATION.*

HENRY W. STELWAGON, M.D.
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It is my purpose to consider plans which have given me satisfactory results in treating the more superficial epitheliomata of the skin. I have no new remedies to offer, but desire to add my endorsement to that of Robinson, Gottheil and others, to the advantages of caustics, properly employed, and to give somewhat in detail the manner of carrying out the treatment. In doing this I do not wish to be understood as disparaging excision as the

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best method in many cases, but having seen both plans often employed, I am convinced that for the more superficial skin cancers the treatment by the caustic method is equal and in many cases superior to that of operation.

It has been clearly shown by microscopical investigations that the outlying pathological epithelial cells may often be found considerably beyond the apparent border of the disease, and are, therefore, often missed by the surgeon's knife. In the caustic method such cells are usually destroyed or weakened by the products of cauterization or by the marked inflammatory action resulting, and a reappearance of the growth is thereby rendered less probable. Further, if the parasitic view of the cause of these growths be accepted, and I doubt not that this will finally be demonstrated, it can readily be understood why the caustics usually employed may have a very positive influence on the parasitic agent. Moreover, the resulting inflammatory action on the surrounding tissues, and the ensuing suppuration have an influence antagonistic to outlying morbific cells.

Another important consideration which is often overlooked in the management of these cases is that the secret of the successful and permanent removal of an epithelioma is to get the case in its earliest stage, before there has been chance for an invasion into the surrounding tissue. It is often just at such times that these patients first apply for advice, but the suggestion of the knife, or even of the curette, is followed in many instances by a postponement of treatment, and in consequence a greater growth of the lesion and less probability finally of permanent removal. A cauterization at this time, against which there is rarely opposition, would result in permanent cure. The antipathy of the average person, and even of the surgeon himself when he is the patient, to the knife, must be recognized. If an operative method is only held out to such patients, it means either a postponement, which is detrimental, or not infrequently a transference to some cancer quack, who may do damage to the patient, or who may perchance be quite successful in removing the growth.

Irrespective, however, of the natural objections of many of these patients to operative measures, I believe that the caustic method properly followed out lessens the chances of recurrence. There is no damage done with caustics if they are judiciously and boldly used; it is the temporizing treatment with mild caustics or the hesitating treatment with active caustics, which may often do harm. The mild caustics, in fact, of which silver nitrate is an exponent, should have no place in the treatment of these growths. The pain of the caustic application is often spoken of as reason for its nonemployment, but patients themselves do not find this an objection, and often commend the method to friends or acquaintances likewise afflicted. Moreover the pain may be considerably lessened by the incorporation of cocain, and if necessary by the administration of a moderate dose of an opiate.

There are many caustics which have a very positive action, but I desire to speak only of those which have been most useful in my hands, and with which I have successfully treated many cases of skin cancer of the superficial type. These are four in number: arsenious acid, caustic potash, zinc chlorid, and pyrogallol. The first three are those which are most commonly employed by those who have had the largest experience in treating cutaneous epitheliomata by the caustic method. Many other caustics have, it is well known, been used, some of which still have an occasional advocate, but a large experience usually narrows the choice to the three active ones here named. I have not the slightest hesitation in stating that of these four the most valuable by far, and the one most frequently to be employed, is arsenious acid, in this respect, as well in others, thoroughly agreeing with Dr. A. R. Robinson, who has probably done more than any other physician to bring this method before the medical profession of this country.[1] The other three named have, however, a field of usefulness. As an adjuvant of no mean value to these several caustics—with the exception of the caustic potash—I have been in the habit of employing salicylic acid, in the proportion of 5 to 10 per cent. This addition, as a rule, does away with the necessity of any preliminary preparation of the surface in those cases in which the skin is as yet but slightly broken or ulcerated. As a rule, however, in all those cases of epitheliomata over which the epiderm is, in places at least, still comparatively intact, and in which arsenious acid, zinc chlorid or pyrogallol is to be used, it is best to apply momentarily a weak solution of caustic potash of about 5 to 10 per cent. strength; this removes the outer epidermic surface and makes the action of the applied caustic much more rapid and thorough. This potash solution should not be allowed to have a caustic action, but merely a superficial effect, and then washed off. In those cases in which the central part is ulcerated, but the outlying portions still covered with skin, this application should only be made to the latter. In most cases, of course, the surface is already an open one, and the selected caustic may be applied without the preliminary application of the potash solution. If crusts are adherent they should be gently removed with the curette or with oil soaking or soap and water washing before the caustic is applied.

In the selection of one of the four caustics named, one fact is to be remembered, and that is that pyrogallol and arsenious acid have practically an elective action, destroying the pathologic tissues and having, when properly employed and not too long applied, but little influence on healthy structures. This so-called elective action is doubtless due, in part at least, to the feebler resisting power of morbid tissue. Moreover, pyrogallol is, as a rule, a painless caustic. Now as the caustic to be employed in a given case it may, I think, be said, that in small lesions, it is a matter of indifference whether either arsenious acid, zinc chlorid, or caustic potash be used. In large-sized lesions, if the epitheliomatous area is curetted first, a measure to which some have recourse, then the pyrogallol ointment is best for destroying what pathologic tissue and cells may have been left after the curetting. A momentary application of a 50 per cent. or stronger caustic potash solution may also be used for this purpose. It is in very superficial types, in which the tendency is to run along the surface rather than deeply, that pyrogallol ointment may be employed to advantage. It has its special field, however, in cases similar to the last named, when the patient is advanced in years, or in a depressed condition of health. Its painlessness, or comparative painlessness, especially commends it for such cases, in which stronger caustics or operative measures could not well be employed. In extremely sensitive women this remedy can also be used.

Pyrogallol is, however, it should be stated, the weakest and probably the least certain of the several named. It is also slow in its action. I have never been able to get sufficient destruction in five or six days as some

1 Internat. Jour. Surg., 1892, p. 179; 1893, p. 164.

writers suggest; it requires from ten days to three weeks for satisfactory results, and may later need a repetition for a shorter period. The formula employed should be one of 25 to 33 1/3 per cent. strength, made up with three parts vaselin to one part simple cerate; or with three parts resin cerate to one part resin plaster. The proportion of the simple cerate or the resin plaster is to be varied according to the season, whether warm or cold. The ointment may be made more effective by the addition of 10 per cent. of salicylic acid; if this should give rise to pain, a small quantity of cocain, 5 to 10 grains to the ounce, can be added. The method of applying it is as follows: It is spread thickly on the woven side of patent lint or on a piece of kid, to the thickness of ⅛ to ¼ inch. It is applied to the diseased area, extending beyond the edges ¼ to ½ inch. Depending on the region involved, it may be advisable to bandage it on or to fasten with adhesive strips; as a rule this is only necessary during the night. The dressing is renewed every twenty-four hours, the surface being gently wiped off at each renewal. At the end of three or four days a certain amount of slough is produced; this is, so far as possible, gently rubbed or picked off, or the part may be poulticed for several hours to a day. The ointment is immediately reapplied as before for three or four days more, and in this manner it must be continued for ten days to three weeks, according to circumstances; finally, after removing the slough, a mild indifferent ointment may be used, and healing permitted to take place. For this purpose an ointment of resin cerate, or zinc oxid, with a few grains of carbolic acid to the ounce, will answer well; it is changed two or three times daily, acording to the amount of discharge, and the parts washed at least once daily. If complete healing should not ensue, or should a recurrence subsequently show itself, the same plan is to be repeated.

Zinc chlorid has been employed for the removal of morbid growths for some years, and had in former days, probably, a greater number of advocates than at present. It destroys healthy and morbid tissue alike, the former possibly somewhat less rapidly than the latter. Its action is a peculiar one, in that it seems to mummify the tissue. The same preliminary preparation should be made for its use as with the application of pyrogallol; the overlying skin, if intact, being softened with the potash solution. While this is not so necessary with this caustic, it hastens its destructive action. It is rarely used pure, but is most commonly employed as a paste with flour. It is a painful caustic, and as its painfulness is evidently lessened by the addition of cocain, this may be incorporated to the extent of 5 to 20 per cent. Probably the best paste is that known as Bougard's, the composition of which, as usually given, is as follows: wheat flour and starch powder, each 4 drams; arsenious acid, 4 grains; cinnabar and ammonium muriate, each 20 grains; corrosive sublimate, 2 grains; zinc chlorid crystals, 4 drams; boiling water, 6 drams. The first six ingredients are thoroughly mixed and the zinc chlorid dissolved in the water, and then the two mixtures rubbed up together secundum artem. It is difficult to have this paste made with the amount of water as given; it is advisable, however, to use as little water as possible, so that the paste may be of stiff-dough consistency, and then to add at the time of application a sufficient quantity of a saturated solution of cocain hydrochlorate to bring it to working consistency. The paste is spread on any suitable material and applied to the growth, extending slightly beyond the border. The depth destroyed is usually equal to two or three times the thickness of the layer of paste. There is a variable amount of inflammatory swelling in the course of twenty-four hours; but this is rarely so marked as from the arsenical application to be spoken of later. At the end of twenty-four to forty-eight hours, according to the intensity of the inflammation, the plaster is removed. If the destruction is deemed insufficient, the mummified tissue is to be gently pared away, which can be done without pain, and a fresh application made. In lesions of superficial character rarely more than one application is necessary. The dead tissue is removed by paring it away and by poulticing; or instead of poulticing an ointment may be kept constantly applied and the slough permitted to come away gradually. The separation of the slough requires usually from five to twenty days. The subsequent treatment is the same as with the use of the other caustics. This paste is a good one, and it has given good results. It will hold its power several weeks or longer if kept in an air-tight receptacle. I have employed it two months after it was made and it was still active. It is, of course, necessary, as it becomes dryer, to add a greater proportion of the saturated solution of the cocain.

A paste made extemporaneously, consisting of one part zinc chlorid and three parts flour, using the saturated solution of cocain hydrochlorate to make it up into a paste, will also act satisfactorily. Zinc chlorid is of special service when the growth is seated over a vessel, as, for instance, over the temporal artery, as its mummifying action prevents any hemorrhage from destructive action. On a few occasions I was tempted to try a larger proportion of arsenious acid in the Bougard paste, but the resulting action was much more destructive than desired, and the mummifying property of the zinc chlorid was considerably lessened. Salicylic acid may, however, be added to advantage, in the proportion of 5 to 10 per cent.

As before stated, however, arsenic is undoubtedly the best caustic to employ in many of these cases. It certainly has, relatively speaking at least, an elective action. Marsden, Robinson, Gottheil and others, including myself, who have employed it frequently, have never seen toxic absorption from its cautious use. It may be employed in several strengths, according to the case and the effect required. Marsden, who was the first to emphasize the value of this caustic in these cases, advised a paste made of two parts of arsenious acid and one of mucilage acacia. Robinson recommends two strengths, one of equal parts of arsenious acid and powdered acacia, and one of two parts of the arsenic and one of the acacia, using sufficient water at the time of application to make into a paste of the consistency of stiff butter. I have employed it, in most cases, in about equal proportions; in small and somewhat deep-seated lesions, using two to three parts of arsenious acid and one part of acacia, and in slight and very superficial cases, using it as weak as one part of the arsenic to two of acacia. I have always used a saturated solution of cocain hydrochlorate to make it into a paste, as this has to some extent lessened the pain of the application. Marsden advised against applying the remedy to a larger surface than one square inch at one time. If the area is somewhat larger than this, and it is desired to treat it all at one time, satisfactory results can be obtained by using zinc chlorid paste centrally and the arsenical paste peripherally. I have usually

observed this precaution. Robinson and Gottheil state that they have employed it over much larger areas than a square inch, and have never observed dangerous action from absorption, the cases of course being kept under surveillance at the time. The paste is spread over the diseased area, well overlapping the edges, spreading to about the thickness of ¼ inch; over this is placed a piece of patent lint; in five to ten minutes the paste has hardened somewhat and the edges of the lint, if necessary, may be trimmed. This may usually be left on for twenty-four to forty-eight hours; poultices are then to be applied and the slough is gradually removed. If for any reason poultices can not be continuously applied, they may be applied during the daytime and a simple ointment dressing at night. In some instances, in which the constant application of poultices is not feasible, an ointment dressing is applied until the slough comes away, and in fact until complete healing takes place. The slough clings for some time; with poultices it usually comes away in five to ten days; with ointment it takes considerably longer. Robinson advises that the application be left on not longer than twenty-four hours, there being a possibility that too much action will have taken place if kept on longer, and that dangerous absorption might ensue. In cases of any extent, when the action seems sufficient, I am of the same opinion; if, however, the growth is small, its removal in this time has not seemed necessary. The effect of the application is that in ten to twelve hours a good deal of inflammatory swelling and edema have taken place; if at the end of twenty-four hours there is no evidence of such action, the plaster should be removed and a fresh one applied. Ordinarily one to two days' application will suffice to show sufficient destruction and inflammatory action.

In weaker proportions, arsenious acid may be used with great advantage in the superficial spreading epitheliomata, such as mentioned when speaking of the use of pyrogallol. For this use the application much employed by the late Professor Hebra in the treatment of lupus vulgaris can be used. It consists of arsenious acid, one part; artificial cinnabar, three parts; rose-water ointment, twenty-four parts. This may be used over palm-sized areas and without risk of bad results from absorption. It is spread on patent lint, to the thickness of ⅛ inch or more, and applied to the whole diseased patch; this is covered with some impermeable material and fastened on with adhesive strips or with a bandage. It is changed every twenty-four hours. At the end of the first day slight swelling and some pain are noticed, which increase during the next twenty-four hours. This application is to be continued for three days, sometimes four; at the end of this time if the action is insufficient a further application is to be made. The subsequent treatment is the same as with other plans. If there are still evidences of disease after the slough comes away the treatment can again be repeated. The incorporation of cocain in this ointment will render its action less painful.

Caustic potash is a powerful caustic and must always be used with care. It is rapid in its action, one thorough application usually sufficing to destroy the entire growth. It has its special field in small and beginning cutaneous skin cancers, and in those in which time is important and in which the patient can only remain under observation a short period. The stick should be employed; or the strongest possible solution. The former is preferable. If the surface of the growth is crusted this should be removed, and the parts outside of the diseased area protected with a layer of vaselin, after which the caustic is applied. If the lesion is small and superficial, the desired effect is usually sufficiently attained in a minute or two, and then further action is to be prevented by the application of dilute acetic acid or vinegar. The free use of caustic potash without restraint with this acid application means unnecessary pain and often unnecessary destruction and disfigurement. This caustic is painful, but only at the time of application. If the growth is somewhat large, injections of a weak solution of cocain may be made at first, or moderate obtunding may be secured by the cataphoretic introduction of cocain. Subsequently the parts may be poulticed until the slough comes away, which may require several days; or when this can not be followed out, an ointment similar to that prescribed after the use of the pyrogallol ointment may be continuously employed. In the latter event the slough is slow in coming away.

The proper use of this caustic constitutes an extremely valuable method of treating these growths, and has, as already remarked, the great advantage of rapidity. It might even be satisfactorily used in larger epitheliomata, if applied under anesthesia. The reactive inflammation which always follows the application of this caustic is in itself an element of some value.

The several methods here briefly described are, I think, worthy of much more extensive use. Their employment should no longer be left to charlatans. With a proper appreciation of their value, I believe the number of advanced skin cancer cases would be materially diminished.

DISCUSSION.

DR. SHERWELL—I would like to endorse this paper of Dr. Stelwagon. But he has not mentioned another caustic which deserves more commendation than arsenious acid. While I have used all the other caustics named, still the acid nitrate of mercury is used ordinarily in conjunction with curetting. Of course, the curettage is painless, for the diseased tissue of the ordinary cancer is scraped out like old cheese; then an application of a 30 per cent. solution of acid nitrate of mercury is made in about from five minutes to sometimes thirty minutes. In the first moment the pain is intense, but easily borne. Arsenic is claimed to have an elective force, and I believe it does, by its inflammatory action in killing these specifically diseased cells. I claim that the acid nitrate of mercury has precisely the same influence.

I believe the knife is quite as well used where the tissues are free, as in the lobe of the ear, the penis, the lips, etc., where a full and free excision can be made; but ordinarily, in skin cancers, I believe the three caustics which the Doctor names, and my own as well, are best employed.

DR. W. T. CORLETT, Cleveland—I wish to add my testimony for treatment of cancer without operation with the knife. For eight or ten years my habit has been to treat cancers without resorting to cutting. I have not had the extensive experience with local applications which Dr. Stelwagon has, but I have used electrolysis in all cases of cancer presented to me. I do not wish to boast about results, but during eight or ten years, I have never had a case of epithelioma return. The advantage of electrolysis is that it can be done at a single time and can be done thoroughly. You know just where you are, how far to go and so on, and the resulting cicatrix is very satisfactory.

DR. CHARLES W. ALLEN, N. Y. City.—One might suppose by the papers and discussion which have recently appeared that the members of the profession were just beginning to appreciate the great advantage of treating skin cancer without the use of the knife. I think that in point of fact most of the men in this country who have practiced dermatology for a number of years have been treating cancer in that way for a long time; and it is only because we have had a number of excellent papers —one of which appeared some time ago at the hands of Dr.

Gottheil, a very finely illustrated article, afterward published in book form—that we have become more active possibly in reporting cases and speaking about it.

I have employed for the past fifteen years various known surgical measures, and beginning with pyrogallol have continued to arsenic, going through them all, including electrolysis, which has been mentioned. I believe all are good in some cases. I have used electrolysis about the eye on small epitheliomata with excellent results, with very little scarring, and as far as I know now without return. I can say with Dr. Corlett, that those which I operated on to a finish with electrolysis have not up to the present time returned to my office. Whether they remained cured or not I can not say absolutely. Where the disease has gone deeply, arsenic is the best remedy, for the reason of its elective influence.

DR. W. S. GOTTHEIL, New York City—I am glad to hear Dr. Stelwagon take the position that he does with reference to the treatment of cutaneous cancers, and so admirably defend a position which I believe to be absolutely correct. Entirely too much deference has been paid to the opinion of surgeons on these points. We have no excuses or apologies to make at all. We believe that we can prove that better results, both as regards permanent cure and cosmetic effect are gotten from the caustic treatment of the very great majority of cutaneous carcinomata than obtained with the knife. I can recall cases treated as long as fifteen years ago, and still under occasional observation, in which the results have been absolutely satisfactory, and in which the scarring is so superficial that a close inspection is required to see it. Some of these were quite extensive; and while I have never hesitated to use the various caustic agents over the necessary area, however large, I have never seen a case of arsenical or other poisoning result.

Arsenic is the most appropriate agent in the great majority of cases. Near the natural openings, or on the mucous membranes, nitric acid or the acid nitrate of mercury, or the potash, etc., is preferable. Only in a very few cases, where for any reason the chemical agents are inapplicable, should the knife be employed. The notoriously large number of returns after its employment should lead us to restrict its field as much as possible. I am a firm advocate of the principles of treatment that Dr. Stelwagon has laid down.

DR. R. A. MCDONNELL, New Haven, Conn.—The use of causties on the skin is generally prefaced by an apology for not using the knife. If we have once made up our minds to use a caustic, then it seems to me that the caustic selected should be one that will act deeply, promptly, and without too long-continued pain. Caustic potash has those qualities. After the use of caustic potash in a very considerable number of cases of skin cancer, I wish to add my testimony to its excellence for this purpose.

TENIA FLAVOPUNCTATA.

WITH DESCRIPTION OF A NEW SPECIMEN.*

FREDERICK A. PACKARD, M.D.

PHILADELPHIA, PA.

The patient from whom the specimen that forms the basis of this report was obtained was a woman aged 40, born in Syria, and admitted to the ward of Dr. A. V. Meigs, at the Pennsylvania Hospital, on Jan. 11, 1899. Owing to her inability to speak any but the smallest amount of English, her past history could only be obtained with great difficulty. The complaint for which she was admitted was a pain in the right side of the abdomen, dating back about three years. This pain was found later to be due to a suppurating hydatid cyst of the liver, from which she finally died. There is nothing in the history in connection with the parasite that I show except that shortly after admission she passed a segment of a tapeworm measuring 16.5 cm. in length. This was given me for identification by Dr. Meigs, and it is through his kindness that I report the case.

The specimen was handed to me in 70 per cent. alcohol, and presented the characteristics which will be described later. The patient died from septic poisoning on February 4, and I had the opportunity of performing the autopsy. The only point of interest in connection with the specimen was that on opening the intestines there was found a second specimen of parasite 2.5 cm. above the ileocecal valve. The parasite was living when found, actively moving, and with a small knot quite tightly tied 15 cm. from its lower extremity. The head was plainly seen. On examining both specimens it was evident that we had to deal with a cestode differing from those ordinarily seen in this country.

The total length of the section of worm passed during life was 16.5 cm. The smaller segments, at what appeared to be a point near the neck, measured 3 mm. transversely by 2 mm. in length; at the larger end the breadth of the segments is 7 mm. and the length 1 mm. In most of the segments there is seen at one edge a little elevation extending in from the edge about 1 mm., corresponding, apparently, to what has been spoken of in some specimens as the yellow spot. These little elevations do not form a complete series, as occasionally there is found a segment where the elevation is on the opposite side of the segment. There is no appearance about the worm of a true yellow spot. On dehydrating segments in absolute alcohol and clearing in oil of cloves there is seen in each of a series of 7 segments a dark line less than 1/10 of a millimeter in thickness extending inward toward the center of the segment to a length of 3 mm. These dark lines have a rather brownish color in contrast to the yellow color of the rest of the segment. Even with a low power it can be seen that there are no branching uteri, but that running up to near the periphery of each segment there is a dark area, which on magnification proves to be an egg sac. The dark brownish line spoken of does not always run inward from the corresponding side of neighboring segments; thus in the 7 segments spoken of it extended inward from one side in 5, from the opposite side in 2. Thus, beginning at one end in the first segment the line ran from the left-hand edge as the specimen was held; in the second from the right-hand edge; in the third from the left-hand edge; in the fourth from the right-hand edge; in the fifth, sixth and seventh from the left-hand edge. With a higher power this brownish streak is found to be evidently a canal. In some specimens this is more clearly defined than in others, and in some the inner extremity seems to terminate in a bulbous enlargement. The main portion of the body of the segment is seen to be made up of a thin-walled sac filled with eggs. In many of the segments the brownish streak mentioned above can not be seen, either with the naked eye or under the microscope.

The specimen obtained after death was 27 cm. long and different in its appearance from that passed during life in no way except for the presence of the head and of a short neck, and for the difference in color. The specimen passed during life was of a brownish-yellow color, while that found at autopsy was almost pure white with a faint-yellow tinge. A closer examination shows that this specimen consists of a head and of a short neck separated from the former by a slight constriction, and of a segmented body. The head is distinctly black at the tip, the color being shown to have

*Presented to the Section on Pathology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

a distinctly purplish tinge on a magnification of 10 diameters. It is flattened from side to side and measures 1 mm. by 0.5 mm. The disposition of the pigment in the head is rather peculiar, it being arranged somewhat as are the leaves of a four-leaf clover, as though each division represented the sucking discs seen in other tenia. No distinct cupping can, however, be seen. Just below the head there is a distinct constriction. The neck is short and broad, measuring about 1 cm. in length by 1.5 mm. in breadth. At a distance of 1.5 cm. from the head distinct transverse striations can be seen with the naked eye, the markings evidently indicating division into proglottides. The segments differ in no wise from those described above that were taken from the specimen passed during life, except for the fact that the brown transverse streak is visible in very few of the segments. On clearing with oil of cloves after dehydrating in absolute alcohol, there is seen to be the same arrangement of the egg sac that is present in the other specimen. In none of the segments of either specimen is there present any branched arrangement of the egg sacs, nor is there any central clumping, such as is seen in the bothriocephalus latus. It is evident, therefore, that this is not a variety of tenia ordinarily seen in this portion of the world, nor is it an example of bothriocephalus. In trying to identify this specimen I have come to the conclusion that it must be an example of the rare parasite, tenia flavopunctata. This has been described but six times as occurring in the human subject.

Weinland[1] describes a specimen which was supposed to be bothriocephalus, which was voided by an 18-months-old child, and came into the possession of Ezra Palmer, Jr. He describes a yellowish spot clearly visible to the naked eye situated about the middle of each joint. Six different specimens were comprised among the segments examined by him. No specimen showed the presence of either head or neck. The whole worm measured between 200 and 300 mm. in length. The segments full of eggs were oblong in shape with the transverse diameter longer than the longitudinal. The yellowish spot was found to lie near the middle line in the anterior part of each joint. It was found to be the testicle, which appeared under the microscope as a globular gland with a long, slender canal reaching out to the side of the joint. He states that the genital openings were situated all on one and the same side of the worm, a condition that is not present in the specimens that I report. The description of the uterus is as follows: "There is no main stem in the midst with lateral branches, but on the contrary the eggs are crowded over the whole joint. It sometimes appears as if they were arranged in straight lines along the joint, but this is certainly owing only to the regular lines of muscular contractions." "From a careful dissection of the young joints we should judge that it —the uterus—consists of globular blind sacs, located here and there in the joint, connected by fine tubes terminating finally in the vagina." The eggs are said to be very large and under a low power to appear as transparent balls with a yellow dot in them, while with a higher power three distinct egg shells were to be made out. He suggests the possibility that the cystic form of the tapeworm dwelt in an insect which had been swallowed by the child.

Leuckart examined segments of Palmer's specimen, which were sent him by Weinland, and figures of the segments accompany the article on this parasite in his work on the parasites of man. In the segments which he examined he could distinguish nothing but a large number of eggs with their clear enveloping wall, and a club-shaped organ occupying a transverse position near the anterior border of the joints.

The second specimen was that described by Leidy.[2] In this case the worm was obtained from a 3-year-old child after the administration of santonin. The child was a native-born citizen of Philadelphia. The specimen is described as consisting of a dozen fragments which reached the length of about a foot or fifteen inches, or more, and were supposed to belong to three separate parasites. No head was present. The widest portion of the body of the specimen was 2.5 mm. in diameter. The joints or proglottides were described as being proportionally short, and the breadth was said to exceed the length several times. The pair of longitudinal vessels was said to be extremely well marked. The ripe joints were of a pale-brown color from the presence of contained eggs. Other joints smaller than those of the ripe ones were seen mingled with the others. The egg-cavity is described as being a simple sac bounded by thin walls of the joints. In the segments containing eggs nothing could be made out in regard to the structure of the generative apparatus, but in those without eggs he describes a narrow, clavate organ which he suspected to be the seminal receptacle. This organ is described as lying near the fore part of one side of the joints, commencing with its thick end near the median line and proceeding outwardly, somewhat tortuous and tapering, along the anterior border of the joints. The joints without eggs also showed scattered here and there from two to five rounded or oval bodies which were supposed by Leidy to be testicular. The longest fragment among the specimens examined by Leidy was 13 inches in length. This was supposed to represent a nearly complete worm, as the joints were very much smaller than the main portion. Leidy made a careful study in regard to the proportions and relations of the segments. All the segments were without eggs. The description of the eggs in his specimen was that they were raw-sienna colored, mostly spherical, and usually measuring .072 mm. in diameter. Embryos were described as oval and measuring .04 by .032 mm., and were provided with six hooks, aranged in three pairs. He states that previous to the specimen described by him the only example of tenia flavopunctata was that of Weinland. Leidy's specimen did not exhibit the yellow spot. In his specimen, as in that described by Weinland, the parasite was found in this country, and in both cases voided by children. In the latter respects my specimen differs from these two, inasmuch as it was found in an adult and in one who was a Syrian and had been but a short time in this country.

In the same year Parona[3] described an instance of the occurrence of this same parasite in the fecal matter of a child aged 2 years. He found a few eggs of the ascaris lumbricoides and some resembling those of T. solium. After the administration of a dose of oil, two specimens of cestodes were obtained and a like number after the administration of filix mas. The four specimens were identical in character and measured from 12 to 20 cm. each. They looked like a small tenia with head, neck and body. The head was very small, the neck short and terminating after 3 or 4 mm. in the body, in which appeared distinctly the lines between the proglottides. The cuboidal head measured .5 mm. in diameter, with four oval cups of a diameter of 112 by 88 microns, and were placed above and obliquely. There was no rostellum and no ring of hooklets. The head passed

into the neck with a slight constriction. The length of the neck was 2 to 3 mm. The strobiles were short, trapezoid and with rounded angles. The proglottides are described as always broader than long and measured at least .5 mm., while the largest were 3mm. in length. The width of the proglottides varied from .5 mm. near the neck to 4 mm. at the lower extremity. The mature proglottides were rich in eggs accumulating in the end of the segment and partly hiding the course of the ovarian duct. This duct was described as being somewhat club-shaped with its most slender part toward the margin of the proglottis. Parona states that it was always on the same side of the worm and appeared to be of a yellowish color. He notes the absence of a branching uterus. He describes the eggs as being found freely in the feces of the child, and as of oval shape and intense yellow color, and measuring 58 by 68 microns. The proscolices were of a distinctly oval shape, possessing hooklets and showing active movement. The eggs were described as being like those of the T. solium, the shell of double contour and one-third thicker than that of the last-named parasite. The description of Parona's specimen would apply almost precisely to the specimens that I present. These specimens described by Parona were made the subject of an article by Grassi[4] in which he notes the resemblance between the specimens of Parona and the T. leptocephala of the mouse and rat. He explains the variation of Parona's specimens from those mentioned as being due to the changes occurring after the death of the parasite. He states that the arrangement of the genital organs, length of the tenia and the size of the proglottis are similar in the two worms. Grassi has advanced the view that a parasite so rare in the human species might be looked on as not having the human body as its regular host and its identity with ordinary parasites of other hosts should be in each case carefully investigated.

Adolf Lutz[5] mentions the fact that Blanchard had collected only four cases, those of Palmer, Leidy, Parona and Grassi, the first mentioned being that described by Weinland. Lutz had brought to him in 1893 a specimen of tenia voided by a child after the administration of santonin. The specimen included the head. Four somewhat large sucking discs and a poorly developed rostellum without hooklets were present. The segments numbered 960, among which some were sterile. There was most resemblance between this and Weinland's specimen. Owing to the statement made by Grassi that a similar parasite infests the rodents he investigated the intestinal contents of the rats and mice in San Paulo, and found that frequently there was present a cestode which corresponded on the one hand to the T. leptocephala and on the other hand to the specimen obtained in the human subject. He therefore agrees with Grassi that the rat is the usual host of the T. flavopunctata. While making his investigations he found in the examination of the feces of a child aged 2½ years, born of foreign parentage but growing up in San Paulo, the eggs of a cestode resembling those of T. nana. In order to still further study the question as to the identity of the T. flavopunctata and the parasites found in the rat, he made a more complete study of the parasitic contents of the rats found in St. Paulo, examining the excrement from time to time for eggs, and found in one animal kept a long time after the discovery of eggs in the excrement two examples of the hymenolopis diminuta (T. flavopunctata), and a larger number of small tenia corresponding to the hymenolopis nana (T. nana). In a 4-year-old girl born in San Paulo examination of the stools discovered the presence of somewhat numerous eggs resembling those of hymenolopis nana. After the administration of an anthelmintic he found a very large number of small tapeworms, about 10 per cent. of which showed a head. These evidently were examples of hymenolopis murina.

It would seem from Lutz's article that there is little if any connection between the various parasites found by him in the rat and the supposed T. flavopunctata derived from his first patient. His description of the parasites found is quite brief, but in that of the parasites found in the rat there is not sufficient description to identify his specimens with the T. flavopunctata. The specimen that I present herewith is of such a size that it is inconceivable that the mouse or the rat could share with man the privilege of being the host of this parasite, unless in these animals the worm attains a far less size than is the case in the human being. It may be that the supposition of Grassi is correct and that the rare examples of the T. flavopunctata in man are in reality instances of infection by one of the parasites having as its usual host one of the lower animals, and showing different developmental characters when dwelling in the human intestine. Proof of this is not definitely furnished in Lutz's article.

Zschokke[7] has described a specimen which he found preserved in a museum of the veterinary school at Alfort. It consisted of two pieces measuring 18 and 20 cm. in length, and of numerous shorter fragments and separate joints. The preparation had been for a long time in the Alfort museum and was supposed to have been obtained in the latter part of the last century. The parasites were very opaque, hard and fragile, and it was difficult to investigate their internal structure.

Choledkowsky[8] has described a tenia (T. Brandti) found by him in the intestines of hogs and cattle which bears some superficial resemblance to the T. flavopunctata as regards the relative length and breadth of the segments and the arrangement of the genital outlet. There is, however, a totally different arrangement of the egg-sacs, which in the specimen described by him form a branching organ resembling that of the beef and pork worm, whereas all authors agree in stating that the eggs of the T. flavopunctata are contained in a large thin-walled sac.

It seems to me that the specimens presented herewith must be looked on as examples of the tenia flavopunctata. The rarity of this parasite in the human being makes it, I believe, worthy of report, especially in order that others may be on the watch for other instances. Whether it is merely an accidental parasite of the human being and has its ordinary habitat in the intestine of some other animal during its sexually mature period can not be definitely stated.

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Pathogenesis of Sympathetic Ophthalmia.—I. W. Selenkowski has established that toxins generated by bacteria in one eye may be carried to the other eye and induce a sympathetic inflammation. He injected filtered toxins of the staphylococcus aureus into one eye of numerous animals with positive results of inflammation in the other eye in every case. —*St. Petersburg Med. Woch.*, October 6.

A COMPACT OPERATING-CASE FOR MILITARY SERVICE.

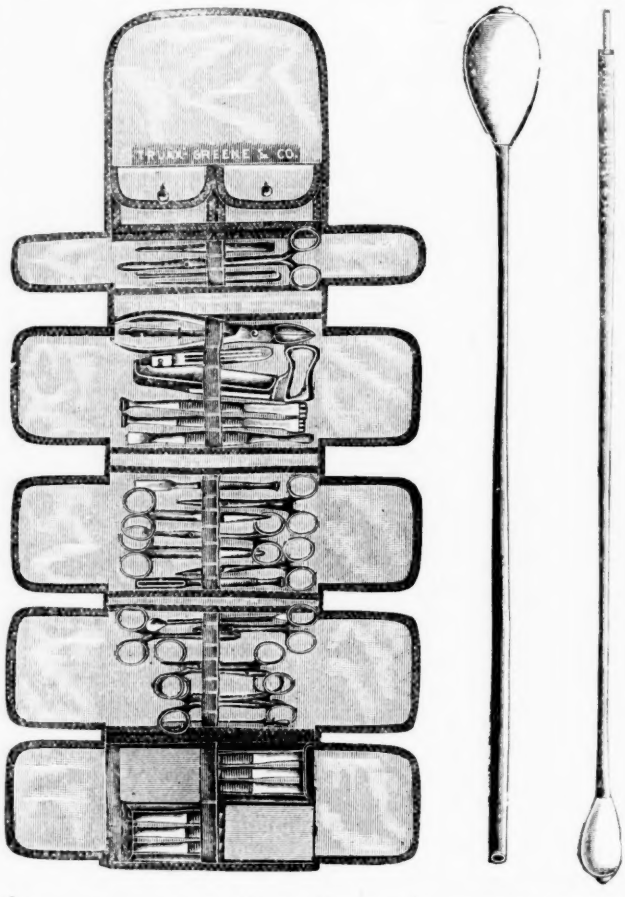
WITH A DESCRIPTION OF SEVERAL NEW INSTRUMENTS FOR THE SAME.

NICHOLAS SENN, M.D.

CHICAGO.

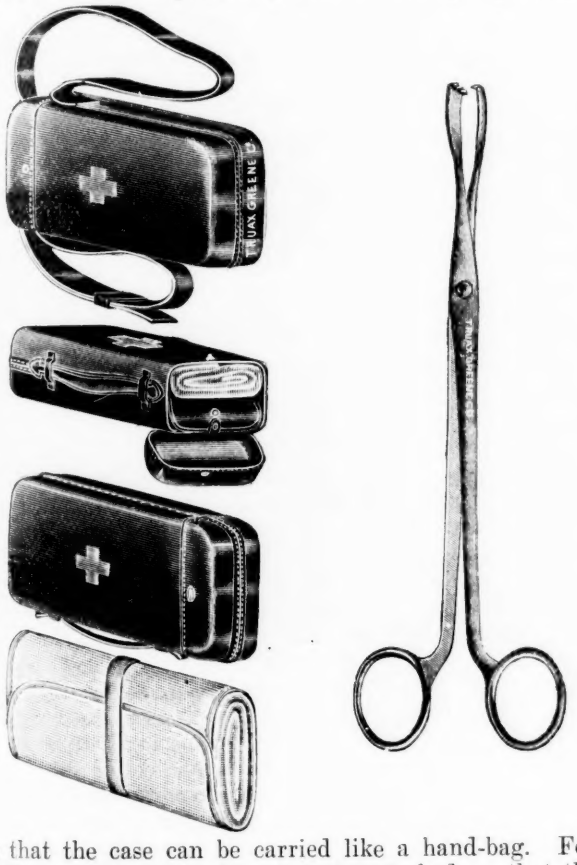
The surgical work of the military surgeon in the field is limited almost exclusively to the treatment of accidental wounds. He seldom is called upon to perform major operations for any other indications. His success as a surgeon depends largely on his proficiency in guarding against wound infection, and his mechanical skill in the treatment of compound fractures. During an active campaign he will often find himself thrown on his own resources with a limited supply of instruments and dressing material, and often without skilled assistance, and under these trying circumstances has often to perform difficult operations which can not be postponed. Military surgery is in every sense of the word, emergency surgery. A quick perception of the nature of the case, and prompt, intelligent action are necessary to perform the many life-saving operations during and after all engagements, when often without warning and with limited preparations hundreds of wounded plead at the same time for surgical assistance. The military surgeon must possess the necessary knowledge and manual dexterity to perform at a moment's notice, and with the simplest instruments and limited assistance, all life-saving operations, in all cases demanding timely intervention to meet the urgent indications. Aseptic surgery has necessitated a great change in the manufacture of surgical instruments. All attempts at ornamentation have been abandoned. The beautifully carved handles and blades that adorn the pages of ancient works on surgery have become objects of curiosity, and are to be found only in the shops of dealers in antiquities. The modern surgical instruments are made as plain and smooth as possible. Knives and retractors are made of one piece of metal, and niches and crevices are avoided whenever this can be done, and scissors and forceps are constructed so that the two parts can be readily separated and joined together again, to facilitate thorough cleansing and sterilization. Another great improvement noticeable in the instruments in use at the present time is their smaller size and more delicate construction. The old-fashioned, sword-like amputating knife is seldom seen now, as any amputation can be done with a medium-sized scalpel, since surgeons have abandoned transfixion methods. The best surgeons need the fewest instruments. Very few instruments are required to perform any operation, provided the selection is made with the requisite care, and the surgeon is familiar with their use.

The military surgeon should from the very beginning of his professional career endeavor to do his surgical work with as few instruments as possible. For field service the instrument case as well as the instruments should be well adapted for emergency work. Aseptic surgery has made it necessary to make a radical change in the construction of instrument cases. Within the memory of nearly all the older military surgeons the method of packing, storing and transporting of surgical instruments has undergone a somewhat rapid succession of notable changes, and while each has marked an advance in the mechanics employed, it is evident that the inventive skill of the instrument-maker has not kept pace with the rigid demands of aseptic surgery. The old-fashioned velvet-lined instrument box and pocket-case very fortunately disappeared some time ago, and were replaced by wooden boxes with carved spaces for each instrument, devoid of any lining, and the so-called aseptic pocket-case. In due course of time, the wooden boxes had to give way to another improvement—the metallic cases, which for some time appeared to answer the modern requirements. In the metallic cases the instruments were held in their places by hooks, loops and cross-bars, and it was not always easy after their use to return them to their proper places, to say nothing of the damage inflicted upon the instruments in the transportation of the cases and the disagreeable rattling caused by the instruments not held firmly in position. An instrument case for field use must contain all the instruments necessary



for emergency operations; it must be compact, and so arranged that the case and its contents can be sterilized by the simplest and quickest method, and the instruments, after use, can be replaced without any difficulty and unnecessary loss of time. Cases made of wood or metal are entirely out of place in the field. They are apt to get out of order by hard usage, and add unnecessary weight and bulk. For a number of years the writer has made an extended study of the contents and case for surgical work in military and emergency surgery. He has found by observation and ample experience that the instruments used in emergency work can be safely carried in roll-up, washable, canvas rolls, in which each article is held securely in place by non-elastic loops. If the name of each instrument is stamped with indelible ink in the place it should occupy, there will be no difficulty experienced in replacing properly and quickly the entire set after use. This plan constitutes an ideal method, for it makes pro-

vision for changes that might appear desirable in the set, and discarding such as might be regarded as unnecessary, and additional patterns may be included from time to time. A second and similarly stamped roll, properly sterilized, should be in readiness in a separate compartment of the outer leather case, so that the instrument may be transferred to it after each exposure to infection. The form and character of the outer wrapping of the canvas roll holding the instruments is of the greatest importance. It should be light, soft and flexible, without any sharp corners, and, if possible, small enough to be carried in a hand-bag or overcoat pocket. The outer cover of the author's field-case is made of soft leather, with rounded ends and corners, with a double compartment, one for the roll of instruments, the other for the empty canvas roll. A slip-handle, also of leather, is provided,



so that the case can be carried like a hand-bag. For military service a leather strap is attached, so that the case can be carried over the shoulder.

The instruments selected for this case are the following:

One combined metallic male and female catheter; 11 Kocher's hemostatic forceps; 1 Abbe's hemostatic forceps and needle-holder combined; 1 small scalpel; 1 large scalpel; 1 straight bistoury; curved, sharp-point bistoury; 1 small tenotome; 1 tenaculum; 1 straight scissors; 1 scissors curved on the flat; 1 MacLean's folding amputating knife; 1 bone-cutting forceps; double-end retractors, with guards; 1 author's saw, with guard for blade; 1 plain dressing-forceps; 1 ligature-carrier and retractor; 2 author's tissue forceps, with 3 and 5 teeth and catch slide; 1 bone chisel; 1 bone gouge; 1 sharp spoon and periosteal elevator; 1 author's bullet-forceps; 1 author's bullet probe; 2 ordinary probes; 1 exploring trocar; 12 silkworm-gut sutures; 12 surgical needles (assorted); 2 skeins of braided silk; 1 coil of silver wire; 6 needles for intestinal suturing.

The six knives are included in two protecting metallic plates that rest side by side, forming one fold of the canvas roll.

The knives are made of one piece of steel and the handles are corrugated, ensuring a firm grasping surface. The most important feature of the list of instruments is the large number of hemostatic forceps. Besides the eleven Kocher's forceps, the Abbe's and tissue forceps are available for hemostatic purposes. The Kocher pattern is given preference because it combines the artery crushing power of the serrated designs with the delicate adaptation of the mouse-toothed variety. With this double hold on the tissues there is very little risk of losing its grasp. If a deep vessel requires to be tied and the ligature does not readily slip into place, two instruments are applied close together, and by separating the locked handles a cone is made by the grasping ends of the forceps over which the ligature readily glides away from the instruments into its proper place. Although the author never uses anything but an ordinary scalpel in performing any amputation, he has included in the set MacLean's folding knife, which may prove a convenience to many surgeons who are in the habit of using larger knives. The retractors, two in number, are each provided with blunt and sharp retracting blades. The latter are three-pronged, and are furnished with guards that permit of safe use of the sharp end as a handle when using the blunt end. The bone-cutting instruments comprise a cutting forceps, the author's saw, a sharp spoon and periosteal elevator, a chisel and a gouge. A mallet is not included, as a substitute for this instrument can be found almost anywhere. The bone-cutting forceps will answer an excellent purpose if only a limited amount of chiseling is to be done.

The smaller instruments are of the author's patterns, and will be described below, while the small instruments are of the usual forms.

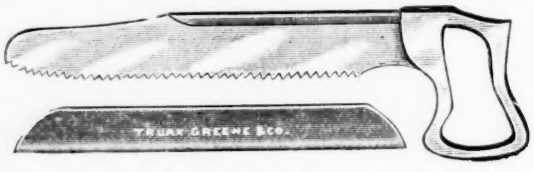
The canvas cover is eight inches in width and, including flap, 31 inches in length. The whole is encased in a flexible leather cover, 9 inches in length, 5 inches in breadth, and 5 inches in thickness, and weighs, complete, 4½ pounds. One of the principal advantages of the instrument case is that after removing the canvas cover from the leather case, the cover, with all its contents, including needles and suturing material, can be sterilized at a moment's notice by boiling for a few minutes in a soda solution.

After the operation the instruments are to be thoroughly cleansed, dried and transferred to the second aseptic canvas cover. The author made use of one of these cases during the Spanish-American war, and his experience with it during that time has convinced him that it possesses merits which should entitle it to the careful consideration of military authorities. To make this case useful for military service, the author found it necessary to devise a number of new instruments, which it contains, in order to meet the demands made necessary by the small-caliber, jacketed bullet, and others to adapt them for emergency work. These instruments require a brief explanation.

BULLET PROBE.

The metal encased bullet has made the famous Nélaton bullet probe almost obsolete, as the test for lead which it yielded by rubbing the porcelain tip of the probe against the leaden bullet will no longer be of any diagnostic value in searching for modern bullets. The tip of this probe is likewise too small in following the tubular wounds made by bullets. The author's bullet probe consists of a soft metal, flexible rod, pointed in the center and tipped at both ends with porcelain bulbs, as at this time the old-fashioned leaden bullet has not

been entirely abandoned in warfare, and remains in common use in civil life. The porcelain tips are made to correspond in size to the caliber of the bullets commonly used; that is, one corresponds to the 22 and the other to 38, French scale. Probing for bullets in recent gunshot injuries is seldom justifiable as a diagnostic resource, but in cases in which it is deemed advisable by the nature of the wound and the probable location of the bullet the bulbous end of the probe should correspond as nearly as possible to the caliber of the bullet, as false passages are more likely to be made with a small instrument than one which corresponds approximately to the size of the bullet. In the old porcelain-tipped probe some risk always attended exploration by the porcelain bulb becoming detached and remaining as an additional foreign body in the wound. Heretofore, in the construction of probes with this class



of tips, the porcelain bulb has been attached to the rod by boring or moulding a perforation in the bulb, which the wire rod would fit, and fastening the two parts together with cement. This procedure was a well recognized defect, and resulted not infrequently in losing the bulb in the wound, an accident which occurred in the writer's own practice. After much experimenting, a probe has been made with a perforation through the whole thickness of the bulb, the rod passing through the whole length of the perforation, its distal end being riveted in a small depression on the surface of the bulb.

This modification in the manufacture of the probe renders the instrument perfectly safe, and without detracting the least from its value as a diagnotic instrument. The diagnostic value of the probe has been greatly enhanced by furnishing the ends with porcelain tips which in size more nearly correspond to the caliber of bullets in most common use. The full length of the pointed probe described is nine inches.

BULLET FORCEPS.

Since leaden bullets have largely given way to a core of lead surrounded by a hard metal mantle, it has become necessary to change the construction of forceps intended for their extraction. At the time when the leaden bullet was used exclusively, it was possible to remove them with the aid of forceps with short, tenaculum-shaped jaws, because with even a light force it was easy with such an instrument to penetrate the lead, thus securing a grasp sufficiently firm for its extraction. Such instruments are, however, practically worthless in attempting to extract a steel or nickel-encased bullet. The American bullet forceps, which retained its well-earned fame as long as its use was limited to the extraction of leaden bullets, must now give way to instruments with a better grasping power. It is evident that forceps with concave serrated jaws would answer in such cases, provided the grasping surface would correspond in size with the metal jacket. To use efficiently a forceps of such construction would necessitate several forceps with different grasping capacities and a previous knowledge of the exact size of the bullet to be extracted. An instrument to be of use in all cases must be one that is so constructed that it will grasp securely bullets of any size. This object is gained by forceps with concave jaws, the terminal margins of which are provided with two short, strong teeth, sharpened to a fine point. A third shorter and stouter tooth, interposed between the two lateral teeth, would form in each jaw a third point of contact in case of smaller bullets. The forceps terminates in a blunt cone, which makes the instrument available when closed as a bullet probe in the absence of instruments specially adapted for this purpose.

MINOR OPERATING SAW.

This instrument consists of a slender blade provided with a lifting back and attached to a small, solid handle of such shape as to admit of a firm grasp of the instrument. The fenestrum in the handle reduces the weight of the instrument and increases the grasping surface.

RAT-TOOTHED TISSUE FORCEPS, WITH CATCH SLIDE.

This forceps is of the spring-blade type, with slide catch. These forceps can be used for dissection and hemostasis, and can be made useful as retractors. The jaws are of the rat-tooth variety, the smaller size with three and the larger with five teeth.

SARCOMA OF VERMIFORM APPENDIX.—SARCOMA OF THE EXTERNAL URETHRAL ORIFICE.

THEO. G. DAVIS, M.D.

BRIDGETON, N. J.

I. H., male, aged 51 years, blacksmith, had for more than a year recurrent attacks of pain in the right iliac fossa, becoming more severe, so that five weeks before entering Bridgeton Hospital, for operation, he had been confined to the house for three weeks by an attack. The question of malignancy was considered, because his father had died of "cancer," and on tracing history of father's case, I find that the cecum was much thickened and softened, but no microscopic examination was made. I mention this because Hollender has recently stated that "cancer of intestine is apt to recur in families." Having opened the abdomen, by the usual incision, we found the appendix lying posterior of cecum, pointing upward and slightly outward, firmly adherent and bound down by results of previous inflammation. It was severed near the cecum, and peritoneum closed over stump by mattress sutures; the cecum did not appear to be invaded. The abdomen was closed in layers. The appendix was about 1½ inches in length, firm, thickened, lumen almost obliterated. Sections examined microscopically proved it to be a small round-celled sarcoma. Five months have passed and patient seems perfectly well, has gained fourteen pounds, and is at work.

This is the third case of sarcoma of the vermiform appendix to be reported; the others have been reported by Glazebrook,[1] and by J. Collins Warren.[2]

R. A., female, age 47, was annoyed by pain, irritation and bleeding. On examination, a dark-red, somewhat eroded mass was found, with base at urethral orifice. Free dissection of vestibular space and removal of anterior half of urethra was made. The mucous membrane of urethra was attached to the skin by silkworm-gut sutures. A catheter was placed in the bladder, and the vagina packed with gauze.

Recovery was uneventful, and now, five months afterward, she appears well. Microscopic examination proved it to be a small round-celled sarcoma.

This is the fifth case to be reported in surgical literature—one each by H. Beigel, E. Ehrendorfer, Galabin and C. A. L. Reed.[3]

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THE USE OF ALCOHOL IN TREATMENT OF CARBOLIC ACID BURNS AND POISONING.

HERMAN A. KLEIN, M.D.
CHICAGO.

Having used alcohol in the treatment of carbolic acid poisoning and burns with most gratifying results, I venture to give my observations for the benefit of those who have had no experience with this antidote. It not only enables us to save many lives that are threatened by the accidental or intentional misuse of carbolic acid, but it widens the field of use of one of the most powerful germicides, for it enables us to use the full germicidal properties of the acid without any dangerous caustic effect. I believe that the following cases justify my statements:

CASE 1.—Some one threw about two ounces of carbolic acid on the face and hands of a woman, and when I arrived, about fifteen minutes after the occurrence, I bathed the injured parts freely with alcohol for half an hour. Marked improvement took place at once; pain was diminished, and the skin assumed a healthier color. I also applied carron-oil. In about a week the patient had fully recovered without any mark on the face.

CASE 2.—A woman, aged 29, drank 2 ounces of carbolic acid. I saw the patient ten minutes afterward, and gave alcohol internally, 4 ounces every half-hour until three doses had been taken, then 1 ounce every hour for four doses. I administered ¼ gr. morphin hypodermically, followed in two hours by another injection of morphin. After this there was little medicine given. The patient was discharged in six days.

CASE 3.—A man, aged 45, received a serious injury in the arm; subsequently infection took place. I applied 95 per cent. carbolic acid to the infected wound for a minute, followed by alcohol. After four applications infection disappeared and the patient made an uneventful recovery.

DISCUSSION ON DR. EVANS' PAPER.*

DR. FREDERICK HOLME WIGGIN, New York City—My experience coincides with the statements made by Dr. Evans, that following end-to-end anastomosis there is little danger of cicatricial contraction. I prefer this method of joining the bowel in all cases where it can be accomplished. I have been fortunate enough to have been able to watch several of my patients on whom this operation had been performed and to follow them up for a number of years, and in no instance has there been any reason to believe that any stricture of the bowel had resulted.

Years ago, when we were beginning to perform operations for intestinal anastomosis, I performed many operations of this character on animals, using both the Maunsell method of suture and the Murphy button. Some of these animals I kept for a number of months, one or two for nine months, and had great difficulty after death in finding the point or points of union. During the last few years I have given up the method of invagination preliminary to suturing, advised by Maunsell, as I have found it to be unnecessary. The suture which he advised was one beginning on the inside of the bowel, passing through all the coats of the gut, then passing through all the coats from the outside into the interior of the other segment of the bowel in order that it may be tied on the inside, thus drawing in the edges of the divided gut and joining the peritoneal surfaces together.

The suture material which I have found to be the most satisfactory in this work is horse hair because it is fine enough to thread in a milliner's needle No. 6 or 7; because it can be easily tied, and also because it is elastic and there is little or no danger of the sutured part becoming strangulated.

While I occasionally use the Murphy button, especially in cases where time is an important factor, yet, as a rule, I prefer the suture method. The objections which I have to the button are the following: 1. Because it places in the intestine a foreign body which is occasionally therein retained, and which also serves as an anchor to hold the anastomosed portion of the bowel in a fixed position allowing the uninjured portion to kink about it, which has resulted in intestinal obstruction. 2. Because it makes the patient dependent on the craft of the cutler rather than on the skill of the surgeon, the spring of the button being made at times too strong, and at other times too weak. 3. Because there is the trouble of being obliged to keep buttons of various sizes constantly on hand. 4. Because there is some danger of the lumen of the button becoming plugged with fecal mater, causing thereby obstruction, which has resulted in death. 5. Because there is danger of the holes, placed at the ends of the button for the purpose of drainage, causing perforation of the mucous and muscular coats. They have been, and may be, cut through, unless great care is used, by the intestine being pressed into the holes and against their edges when the segments of the invaginated button are pushed together.

DR. W. A. EVANS, closing—I did not go into a consideration of the different devices for operation. In looking up the objections to intestinal anastomosis I found that some stress had been laid on the danger of secondary stricture after nearly every kind of operation. In some articles this objection has been brought very prominently forward. Jacobson's "Surgery" gave secondary contraction a prominent place among the objections to the Murphy button. I believe that in all cases where we do either suture anastomosis or a button anastomosis the element of danger from the development of secondary connective tissue in the intestinal wall is slight.

* This discussion was accidentally omitted last week, when the paper appeared.

Therapeutic Application of Methyl Salicylate.—When the sound skin is painted with methyl salicylate and an air-tight bandage applied, the salicylate is absorbed and eliminated in the urine as rapidly as in case of sodium salicylate taken internally. It relieves the pain in all affections accompanied by local pain, neuralgia, gonorrheal arthritis, colic from gall-stones, etc., as well as in articular rheumatism. These assertions by S. Barski *(St. Petersb. Med. Woch.)* are based on an experience of 122 cases of various affections in which methyl salicylate was applied in this way, with most gratifying results.

Injury of Ureter During Laparotomy.—N. Fenomenoff relates in a Russian journal quoted by the *Sem. Méd.* of November 14, that he had the misfortune to excise a small portion of one ureter during a tedious operation for removal of cystic tumors in the broad ligament. Instead of suturing the ureter to the abdominal wound and ablating the kidney later, he resolved to exclude the kidney at once, as *restitutio ad integrum* was impossible. He, therefore, drew the proximal stump of the ureter down as far as possible to prevent a diverticulum, and threw two ligatures around it, then replaced it in its normal position and sutured the abdominal wound, draining through the vagina. The patient made an uninterrupted recovery, complaining merely of a few dull pains at times in the lumbar region at first. She left the hospital in a month, and during the year since the operation has been in good health, with no indication of abnormal function even on analysis of the urine.

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INTRA-ABDOMINAL TORSION OF THE OMENTUM.

The diagnosis of intra-abdominal disease is at times surrounded by so many difficulties that the clinician can not too securely fortify himself against error; but even the most careful and well-informed observer may occasionally be forced to exploratory operation in order to determine the exact nature of the conditions present and to afford the relief that seems urgently necessary. It is well-known that the bowel may become not alone incarcerated in natural or adventitious openings or loops, but also twisted on itself. The omentum, likewise, alone or together with the intestine, may be herniated and, like other organs with a pedicle or analogous attachment, it may undergo torsion, which, if not relieved, must terminate in gangrene and fatal peritonitis. The literature of such twisting of the omentum seems to be scanty, and the difficulty of recognizing the condition apart from operation is almost insurmountable, by reason of its apparently constant association with some form of hernia.

Not alone may the omentum be twisted on itself, but it may also be doubled up on itself once or oftener in a hernial opening. To this latter condition the designation retrograde incarceration has been applied. Both phenomena may be associated, or each may exist independently.

To the small number of cases in the literature Dr. Joseph Wiener, Jr.,[1] adds the report of another, which illustrates the essential features of the disorder. A man, 79 years old, with a right-sided reducible inguinal hernia of thirty years' standing, was suddenly seized with pain in the right iliac region, which subsided in the course of twenty-four hours. Three weeks later a similar attack occurred, the pain being cramp-like in character but unattended with vomiting or fever. The bowels had moved regularly. The abdomen was soft and tympanitic. A round tumor as large as an orange, tender to touch, of doughy consistency and dull on percussion, was found midway between the right anterior superior iliac spine and the free border of the ribs, between the axillary and the mammillary line. The sac of a right inguinal hernia was found empty. The temperature rose to 101.4 F., the pulse to 100, and the respiration to 34. A diagnosis of intra-abdominal abscess was made. On opening the abdomen by an incision over the tumor, a piece of omentum as large as the palm of a hand, infiltrated and dark-blue in color, was found, with its distal portion adherent to an epiploic appendix of the ascending colon and the proximal portion continuous with the remainder of the omentum by a narrow pedicle, which was twisted on itself five or six times.

The condition under consideration has hitherto occurred only in patients suffering from hernia, though it was not always found in relation thereto. It has not been recognized prior to operation. Manipulation in attempts at reduction of hernia is thought to be a predisposing etiologic factor in some cases; circumscribed peritonitis with adhesions may act in a similar way. Violent abdominal movement may be the exciting cause in bringing about the twisting. The possibility of the existence of this condition should be borne in mind in operations for hernia attended with symptoms of strangulation, in which only a strand of omentum is found in the inguinal canal, and investigation should be made to determine that there is no torsion of the intra-abdominal portion of the omentum.

1. Annals of Surgery, Nov. 1900, p. 648; THE JOURNAL, Nov. 24, p. 1376, abstract 58.

REQUIREMENTS FOR ADMISSION TO MEDICAL SCHOOLS.

Laxity in the requirements for admission to medical schools is one of the most serious shortcomings of American medical education. In the classes of to-day many of our medical colleges will be found those who are not fit for the medical profession because of lack of training and education, but who yet go away with medical degrees. The proportion of unworthy men, it is feared, is much larger in some schools than it is in others. Such men should not be admitted to the study of medicine. Once admitted they are dragged along with the classes and eventually a diploma is thrust on them. We read in the catalogues of the medical schools that students are admitted by diploma, certificate and examination; but in the majority we fail to find that any control is exercised as to the source and authority of the diploma or certificate. If the certificate is from a high school there is nothing to show that the high school is controlled and approved by some authoritative body capable of doing it, as, for instance, a state or other university. There is also good reason to believe that in many instances the entrance examinations to which the applicant is subjected in lieu of certificate or diploma are of the most perfunctory character. The general scope of the preliminary education by schools that do not demand college degrees for admission is stated often in the most general and indefinite terms.

The new requirements for admission to the medical department of the University of Michigan, copies of which have just been received, are a refreshing exception to the vagueness generally characteristic of such statements. The branches that must have been pursued successfully, and other conditions for admission, are stated clearly and explicitly. A schedule is submitted showing as exactly as such a thing can be shown what

the applicant shall have done in English language, history, mathematics, natural sciences, modern languages and Latin, and certain possible substitutions, before he is admitted to the medical courses. This is a good step in the right direction. Instead of relying implicitly on certificates and diplomas the student must show that he can fulfil certain fundamental requirements that experience and reason proclaim as absolutely essential. In this way the work of the preparatory schools is controlled and brought into better harmony with the work of the medical schools.

The medical department of a great state university can well afford to take a decided lead in all matters appertaining to raising the standard of medical education. It ought to be wholly independent of the number of students admitted. The larger the number of applicants the greater reason to stiffen the requirements. Numbers may flatter the board of regents, but they do not make of necessity great universities.

ENDOCARDITIS IN ITS RELATIONS TO OTHER DISEASES.

In an exhaustive report on endocarditis before the German Congress for Internal Medicine,[1] Litten reaches certain conclusions, which seem to represent fully our present knowledge of this interesting affection. Litten's report appears to have met the approval of the Congress, as many of its members expressed their satisfaction with it.

With the exception of the atheromatous or arteriosclerotic form, endocarditis is almost always a complication in the course of an infectious disease and is caused by micro-parasites. The current designations "verrucous" and "ulcerative" do not carry with them any precise significance as to the origin and cause of endocarditis, which from the clinical and prognostic standpoint may be divided into benign and malignant. Benign endocarditis causes only slight changes without much if any clinical disturbances, but it may lead to chronic valvular disease. It always—or nearly so—involves the left side of the heart and may give rise to aseptic infarcts in the systemic circulation. Pulmonary infarcts in such cases usually result from venous thrombi or thrombi in the right heart.

Malignant endocarditis is always dangerous, develops in either side of the heart, and assumes at one time the verrucous, at another the ulcerous form anatomically. The emboli given off may act mechanically or in an infectious manner, depending on the nature of the underlying condition. Hence malignant endocarditis may be divided into two groups, one without, the other with, suppuration.

Trauma may cause inflammatory disease of the valvular endocardium, terminating either in healing or in chronic valvular disease. Secondary infection may transform this benign endocarditis into a malignant and septico-pyemic.

1. Verh. Congr. Inn. Med., 1900, xviii, 97-153.

According to its secondary nature, endocarditis is classified by Litten as follows, on the basis of etiology: I. Endocarditis benigna, which includes the following variations: rheumatica, peliotica, choreatica, gonorrhoica, scarlatinosa, morbillosa, variolosa, diphtheritica, typhosa, pneumonica, tuberculosa, e. influenzæ, and traumatica. II. Endocarditis maligna; this is divided into, 1, e. non-suppurativa, which includes e. rheumatica, e. choreatica, and e. gonorrhoica; and 2, e. suppurativa, septico-pyæmica—primary or secondary in any of the above forms. Benign and malignant gonorrheal endocarditis are caused by the same agent, the gonococcus, the difference being merely one of degree dependent on the virulence of the bacterium. The nature of the cause of rheumatic endocarditis is not known any more than the cause of typical articular rheumatism is known; rheumatic endocarditis may be assumed to be caused by similar agents of varying virulence.

This summary may be regarded as the most comprehensive and most successful of all the efforts at classifying endocarditis in its various forms. The more it is studied the better does it satisfy the demands on a scheme of this character. Its basis is essentially etiologic. The old anatomic subdivision into ulcerative and verrucous long proved insufficient and confusing. The clinical subdivision into benign and malignant is helpful provided the line of distinction between the two be drawn not too sharply, as the difference is but one of degree. It is needless to say that benign here refers to the type of the disease.

ECLECTICS, HOMEOPATHS AND REGULARS IN CHICAGO AND THEIR OFFICIAL RECOGNITION.

An interesting document has been prepared by the regular attending staff of the Cook County Hospital, of Chicago, for the purpose of inducing the Board of Cook County Commissioners to readjust the ratio now in vogue at the hospital of distribution of the patients among the regular, homeopathic and eclectic services.[1] It appears that 16.66 per cent. of all patients now entering the hospital are assigned to the eclectic service; 20 per cent. to the homeopathic; and 63.33 per cent. to the regular. This apportionment, originally based on the number of students in the different "schools," does not now fairly represent the attendance of the various colleges. In 1899-1900 there were 101 eclectic students in Chicago, or 3 per cent., 659 homeopathic, or 19.3 per cent., and 2648 regular, or 77.7 per cent. During the past six years there has been a diminution in the number of eclectic students, a slight growth in the homeopathic, and a steady and enormous increase of students in the regular schools. Similar results are obtained by comparison of students graduating each year from the different schools. The "Chicago Medical Blue Book" for 1900 gives the following as the number of physicians in Cook County and Chicago: eclectic 191, or 5.64 per cent.,

1. See editorial Cook County Hospital and Politics. THE JOURNAL, Dec. 1.

homeopathic 558, or 16.53 per cent., regulars 2632, or 77.87 per cent.

The present system of distribution of patients in the Cook County Hospital is consequently not a just one—a more liberal share should be accorded the regular service. Placing the basis of distribution on the number of students in the colleges professing the different "systems" of medicine here recognized would give, on a scale of 33: eclectics, 1 patient; homeopaths, 5 patients; regulars, 26 patients. A similar disproportion exists in the number of the three distinct attending staffs. Last year 27.7 per cent. of the eclectic graduates became internes, 3.8 per cent. of the homeopathic, and 2.6 per cent. of the regular—the eclectic "school" having over ten times as many internes as the regular in proportion to the graduating classes from which the internes are chosen by the respective staffs.

It is asked that such a reapportionment of patients be made as would be in accordance with the representation of the various "schools" of practice in the county; or that the annual competitive examination for internes be thrown open to any graduate of any medical school in Cook County, a committee of four, one eclectic, one homeopath and two regular attending men, chosen by the respective staffs, to examine on every subject usually examined in; in materia medica and therapeutics a separate examination is suggested by committees from attending staffs of the three schools, the markings being added to the other averages in order to determine the relative positions of the successful competitors from each "school"; the number of successful candidates from each "school" shall determine the ratio of patients to be assigned to each "school" for that year, i. e., the scale shall represent the total number of internes and the allotment of patients to each staff shall bear the same ratio as the number of internes from each "school" to the total number of internes admitted. The last proposition ought to appeal to those interested in higher medical education; a healthy competitive spirit would arise among the various schools; and the men best qualified would be chosen for internes, irrespective of the "school" in which they happen to have taken their medical degree. It is hoped that the governing body will canvass thoroughly the situation and that a full discussion of this matter may be had by representatives from the institutions that are interested in the outcome.

Incidentally this document, evidently prepared with much care, brings to light valuable information concerning the relative status of different "schools" in this medical center in which there were, during 1899-1900, no less than 3408 medical students. From 1894-95 to 1899-00 the number of regular students gradually increased from 1681 to 2648. Surely a city that draws so many students has placed upon it a responsibility of the most important nature; demanding the serious attention of its citizens. If it shall continue as one of the great medical centers, such questions as the one touched on in the foregoing must receive a solution which is strictly a fair one to those directly concerned. Aside from the scientific aspects of the question, on which much might be said, the economic interests involved are of themselves alone of no mean importance to the city. Will the members of the medical profession join in an effort to secure their rights?

THE ENGLISH LANGUAGE AND MEDICINE.

The recent order of the Emperor of Germany to have instruction in the English language, instead of the French, made compulsory in the higher public schools of that country is significant in several directions. It may be taken for granted that the order was inspired by policy and that sentiment had no agency in its issuance. The world is becoming more and more Anglicized in a linguistic point of view, and the prescience of the Japanese statesman, Mori, who some thirty years ago advised the adoption of English by his countrymen is yearly becoming more manifest. Wherever commerce goes the English speech follows; it is the language of business throughout the world. This pre-eminence has been gained not altogether through the expansion, commercial and otherwise, of the English-speaking people, but also from its own advantages of conciseness, copiousness and general adaptability to all the needs of human intercourse. A German merchant is quoted by a Washington diplomat as saying that he uses it for his correspondence because he can say in a page of English what would take three pages of German, and say it more clearly and exactly.

Another evidence of the fact is the way that English supersedes other languages among immigrants in this country; not only do these languages disappear in the second generation, but the immigrants themselves often begin soon to use English either wholly or in part, by preference in their intercourse with each other. It is only in isolated communities and where particular effort is made to that end that the foreign language holds its own. The medical bearings of these facts are, if not at once obvious, easily pointed out. Until a very recent period the international language of diplomacy, science and culture has been French, and even yet it holds its position to a certain extent. In medical literature, international congresses, etc., French is still the official favored language, as it is in diplomacy, though English is coming more and more to the front. The recognition by Germany that it is the coming international tongue is an important step, in which, however, it has been anticipated in some degree by one or two Hollandish societies that have for some time printed their transactions in English. In 1890 27 per cent. of the civilized world used English as their common speech, a larger proportion than that of any other tongue. At the present time it would undoubtedly be found that this percentage has materially increased, if the statistics were available. It is the present language of the future and there is no reason why it should not be the

international language of medicine and science wherever and whenever such a language is required.

It would seem, therefore, to be the duty of English-speaking physicians to insist on the recognition of these facts, not necessarily to the prejudice of other languages, but simply to do all in their power to make their tongue the universal language of medical science. In time this will be brought about by its own merits; its advantages will be appreciated in scientific as it has been in business communications between man and man. The extension of the English language is, from present signs, likely to be more rapid in the future than in the past, especially on this continent and in those parts of the world coming under the influence of European and American civilization. English is already the mother tongue of the great majority of the white race in the two Americas; it is spoken throughout the Orient more than any other European language; its medical literature is proportionately greater in volume than any other, and the fact that it is largely overlooked by continental writers should inspire us to more firmly demand its recognition. Medical knowledge should use the language which is destined to be foremost of all.

ALCOHOL IN CRIMINALITY.

Alcohol is generally assumed to accomplish its work in the production of crime, and to lead to acts of violence, especially in this country; in the well-policed regions of continental Europe we do not look for such effects, at least not to so great an extent. It is commonly said moreover that in Germany the universal custom of beer-drinking is not attended with the social dangers experienced here from the common excesses in the stronger alcoholic beverages and that if we could imitate them it would be better for us. A little medical testimony on this point may therefore not be out of place. In a recent article published in the *American Journal of Insanity* for October, Dr. Emil Kraeplin, the corypheus of German psychiatry at the present time, gives incidentally the results of a study of the newspaper reports of criminal acts committed during 1898 by persons under the influence of alcohol in the district from which his clinic drew its patients. The population of the district in 1898 was 640,673, and of these 237,770 lived in towns, the majority of which were small. From the newspaper clippings he gathered the following: 11 murders were committed by alcoholics and 47 severely injured, 9 of whom subsequently died of their wounds; there were 25 brawls in which a number of persons received minor injuries, and 2 riots in which the police were overpowered, injured and even besieged while bands of young roughs terrorized the town. Besides these, arson, robbery, and theft were committed by alcoholics; 13 persons were injured, 6 fatally; 2 persons died of acute alcoholism, and 2 committed suicide. These data he considers are only the more startling facts reported in the papers consulted by him and do not in his opinion at all completely represent the actual effects in this particular line of alcoholism in the district. If, as he says, the sum of the homicides and woundings due to alcohol is as great as that attributable to all the other forms of insanity in a non-metropolitan German district, "one can hardly dispute the truth of the assertion that alcoholism is the form of mental disease which above all threatens the community." His article is not devoted to the subject of alcoholism; it is a general consideration of the relation of the state to insanity. These incidentally mentioned statistics of alcoholic criminality are, however, of interest in comparison with similar data from like regions in this country. We are here apt to consider ourselves as especially afflicted in this regard, but the fact is that conditions are not so very different where alcoholic habits are common, not even in Europe, as we have perhaps been inclined to think.

THE METRIC SYSTEM.

A bill is passing through the various stages in Congress which, if it becomes a law in its present form, will encourage the adoption in the United States of the metric system of weights and measures on Jan. 1, 1903. The bill has been reported favorably by the committee on weights and measures, and therefore there is a probability of its becoming a law. The friends of the measure, however, are not over sanguine, knowing that much opposition is still to be met. It is not to be denied that changing from the present cumbersome and complicated system, with its variety of units, to the simple one used by all except English-speaking people, will upset business and cause confusion in the commercial world. Substituting the meter for the yard alone would play havoc in our dry goods stores. But all this confusion would soon subside and a little preparatory education would remove much of the difficulty when the time came to meet it. It is a change that will not be made all at once, but will be done by degrees. The sentiment for this change may be a growth. In medicine, the system has already been more or less in use, as the AMERICAN MEDICAL ASSOCIATION, in 1879, passed a resolution looking to its adoption. Other scientific bodies have also taken similar action and in various ways have encouraged its use. It has not been as readily accepted as it was hoped, but each year the number using it is increasing. All first-class pharmacists are familiar with the metric system and can fill a prescription written in it as well as one written in the old apothecaries' measure. Hence, if Congress should authorize the adoption of the system on Jan. 1, 1903—and we certainly hope it will—the medical profession will be ready and more than willing to adopt it.

UNDESIRED NEWSPAPER NOTORIETY.

Newspaper notoriety is very acceptable to some, of unconcern to a few, and extremely objectionable to the great majority of the members of the medical profession. When a physician's name is printed in the newspaper every time he leaves his home to be absent a few hours, or when he performs some operation out of the ordinary, or whenever he reads a paper before his local society, there is generally good reason to believe that he comes under the first of the classes mentioned. As a rule, the

name of a physician does not get into a newspaper unless the owner of it is at least willing that it should get there. On the other hand the names of those who come under the third head get in the newspaper occasionally and, of course, without sanction or permission. Newspapers are always searching for the sensational and the mysterious, and if a reporter can find the slightest foundation for an article that will bear flaming headlines he will not hesitate to write up an operation, a supposed new discovery or anything else of a sensational or mysterious nature in medicine, and use in connection with it the name of a member of the medical profession without regard to the wishes of the one whose name is so used. This is illustrated in the case of Dr. W.W. Keen, of Philadelphia, whose name and photograph were used in connection with a most sensationally worked-up article on an operation under cocain anesthesia. Those who know Dr. Keen appreciate the fact that he would under no consideration allow his name to be used as was done on that occasion, and he took such action that it will probably not be repeated. Recently, in Chicago, a sensational report of a discussion in the local medical society was printed in an afternoon paper, and a more elaborate and probably more sensational report was to have appeared in various morning papers, had not certain prominent physicians acted quickly and suppressed its publication through personal interviews with the editors. Another instance of undesired publicity is referred to in our correspondence column in this issue. No one who knows Dr. Babcock would for a moment suspect him of wishing for newspaper notoriety, particularly such as that of the syndicate article to which he refers. It is to be regretted that there are some connected directly or otherwise with the medical profession who, perhaps for pecuniary reasons, are willing to aid newspaper reporters in thus outraging professional courtesy, for it is evident that at least occasionally some one possessed of a little medical knowledge must have had a hand in the performance. It impresses upon one the conviction that ethical principles ought to be among the first conveyed in medical instruction, and that no student should be graduated who is not thoroughly grounded in them. If more attention was given to the higher morals of our profession in our medical colleges there would be fewer of these violations in this particular way.

CANCER INVESTIGATION.

We now have in the United States at least two centers for the systematic investigation into the origin of cancer, namely, the New York State Pathological Laboratory, at Buffalo, under the direction of Roswell Park, and supported by public funds, and in Boston, where a committee from the Harvard Medical School through the generosity of the late Caroline Brewer Craft has been enabled to plan systematic work. This is a very satisfactory beginning. The first annual report[1] of the cancer investigation committee of Harvard Medical School shows in a general way the scope of the work which is in charge of the department of surgery, of which J. Collins Warren is the head. Analysis of the statistics for Massachusetts, by W. F. Whitney, is stated to show a marked increase in the death-rate from cancer, the curves being remarkably similar to those of the British registrar-general. This goes to confirm the impression that there is a general increase in the frequency of this disease. Edward H. Nichols reviews the general reasons for and against the theory that cancer is due to the action of a parasite. Nothing new is presented. He found the so-called cancer bodies in certain types of cancer, especially of the breast, but not in epidermoid cancer. Animal inoculations and culture experiments with human cancers were all followed by negative results. Inoculations of animals with the blastomycetes of Sanfelice and Plimmer resulted in nodules of granulation tissue, but no tumor like cancer was produced. R. B. Greenough studied the presence of the so-called "Plimmer's bodies" in cancer; they were found in twenty-three cancers of the breast, being most numerous near the periphery of the tumors and in the metastases. Three epidermoid cancers did not contain any such bodies. E. E. Tyzzer writes about tumors and sporozoa in fishes, but the facts given relate wholly to sporozoa, which do not seem to cause tumors in fishes. Edwin A. Locke describes the reconstruction in wax of a nodule of cancer, a very interesting task. The model shows the relations of the tissues and the manner of growth. Each column is an outgrowth, all parts of the nodule being united with other portions of the tumor. Such models will form a valuable means of instruction. Oscar Richardson reports on a number of faultless culture experiments with carcinomatous tissue, the general result being that no organism that could be regarded as in any way specific was found. This résumé shows, as stated in the report, that the work is in its preliminary stage; no definite conclusions of any sort can be drawn in regard to the main problems at issue. It is a matter for congratulation that well-trained and well-organized groups of investigators may find such favorable opportunities for original research in such an inviting field as the origin of cancer.

1. Journ. Boston Soc. of Med. Sc., 1900, v. 31-80.

THE PRESENT STATUS OF HYDROPHOBIA.

Modern scientific medicine is under heavy obligation to Louis Pasteur, not only for many original and illuminating observations, but also for the healthful impetus he gave to careful, painstaking investigation; and in this material age not the least tribute that can be paid his work is the acknowledgement of its intensely practical value. His studies in fermentation and in parasitology opened new avenues of thought and activity, and have led to results far exceeding the most sanguine expectations of his time. His method of treating hydrophobia was long regarded with doubt and suspicion, but the lapse of time has only tended to place it on a firmer basis and secure for it the recognition it deserves. It was, in some respects, next to vaccination for smallpox, the first of the biologic methods of treatment. The evolution of our knowledge concerning hydrophobia is traced in a most interesting manner by Babes[1] in a recent communication. As he points out, it is really only within the last twenty-five years that correct notions on this subject have prevailed, and it

1. Berliner Klin. Wochenschrift, 1900, Nos. 42 and 43

is now generally agreed that hydrophobia, or rabies, is a specific infectious disease transmitted between animals and man, although the hypothetic micro-organism has not yet been isolated. The medium of communication is usually the saliva of a rabid animal, either through a bite-wound or other solution in continuity of structure, and the central nervous system is the principal seat of the morbid process. Inasmuch as dogs are the most common agents for the transmission of the disease, the use of muzzles and the impounding of these animals serve to diminish greatly its prevalence. In the nervous system nuclear hyperplasia of the adventitia and miliary accumulations in the vicinity of the vessels have been found, and more recently attention has been called to the presence of marked inflammation of the gray matter, especially of the oblongata and the spinal cord, the infiltration assuming a peculiar nodular form. The period of incubation of hydrophobia is long, and considerable time elapses before the effect of protective inoculations becomes manifest, but it has been found that cauterization of the wound of infection prolongs the period of incubation and thus may prove a useful adjunct in treatment. However introduced, the virus of rabies reaches the central nervous system. A stage of premonitory fever has been observed preceding the outbreak of the actual symptoms, and these also may be attended with fever. It is suggested that the anti-rabic inoculation results in a neutralization of the virus before this reaches the nervous system, while when once the nervous system is actually involved the outlook is much less favorable. It seems almost certain that rabies is dependent on the action of a micro-organism, with the identification of which it can be hoped that an anti-toxin will be secured capable not alone of conferring protection against the disease, but also of effecting a cure after symptoms have developed.

Medical News.

CALIFORNIA.

Dr. Alfred E. Regensburger, San Francisco, has resigned from the faculty of the College of Physicians and Surgeons.

The health officer of Oakland discovered four cases of smallpox in that city November 24 and 30; all the patients are colored and are employees of the Pullman Company as cooks on dining cars or porters.

In Los Angeles warrants were issued, November 28, for the arrest of three women and one man charged with practicing medicine without having obtained certificates from the State Board of Medical Examiners.

The directors of the Institute for the Deaf, Dumb and Blind at Berkeley are about to appeal to the state legislature for an appropriation of $12,000 with which to erect and equip a hospital building for the institution.

The trustee of the Garcelon estate transferred to the Merritt Hospital trustees, Oakland, November 28, stocks and bonds aggregating $75,000. This is the first payment on the $400,000 bequest of the late Mrs. Catherine Garcelon for the establishment of a general hospital at Oakland.

The presence of smallpox in Grass Valley has been confirmed after investigation by Dr. H. H. Look, of the State Board of Health. The disease is of a relatively mild type, resembling that which has been and is prevalent in Jackson, Rio Vista, Marysville and other towns in the state.

Santa Rosa, Cal., has passed a quarantine ordinance which provides that whenever the board of health shall ascertain that any person is sick with smallpox, scarlet fever, diphtheria or any other disease dangerous to the public health, the board shall at its discretion have full control of said person or premises, and shall if it deem proper order the premises vacated.

A SANATORIUM FOR CONSUMPTION.

A number of gentlemen of Southern California have formed an organization which is building a sanatorium in Strawberry Valley, to be known as the Idylwild Sanatorium, for the care of invalids, particularly of the tuberculous class. The company owns more than a thousand acres of land extending to the mountains on either side of the valley, the altitude of which is slightly over 5000 feet above sea level. The scenery is grand and picturesque, resembling that of the White Mountains. The air is dry and clear and never unpleasantly hot in summer, while in winter the temperature occasionally falls below freezing point, and has been known to touch 18 F. There will be a few cottages and tents to rent near the sanatorium, the company furnishing light, water and sewerage connections for those who desire to keep house. Pure water has been piped to the sanatorium from a mountain stream.

ILLINOIS.

The fair for the benefit of St. Joseph's Hospital, Joliet, will result in a net gain to the beneficiary of nearly $5000.

Dr. Leslie M. Hoyt, Sycamore, who sued the city for $20,000 for injury to an eye from the overhanging limb of a tree, has settled for $1800.

An examination for physicians, midwives and other practitioners will be held in Chicago by the State Board of Health, January 9, 10 and 11.

Chicago.

Dr. George F. Fiske has returned from his European trip.

Dr. Nicholas Senn leaves Tuesday, December 18, for Central America, to be gone about four weeks.

Infant mortality increased for the week ended December 8 in a marked degree, the deaths of children under 1 year being 91, while during the previous week only 56 were reported.

The November mortality was 1746, equivalent to an annual death-rate of 12.49 per 1000, which compares favorably with the average mortality per mille for the previous ten years, which was 14.87.

It is now announced that the coroner-elect has appointed Dr. George Leininger, as coroner's chief physician at a salary of $2500. The new appointee is recorded in Polk's Directory as the "Inventor and Proprietor of Formaldehyde Generator."

Since the close of November the increase of mortality among the aged has been unprecedented. Last week, out of a total of 447 deaths, 104, or more than 23 per cent., occurred in those over 60 years of age.

The first case of smallpox since June was imported from Ashland, Wis., and detected November 30. The federal health reports show an increase of 350 per cent. in the prevalence of smallpox throughout the United States and the Health Department urgently recommends a general and individual resort to vaccination.

KANSAS.

The exhibit made by the State Board of Health at the Paris Exposition has been awarded a silver medal.

Smallpox is prevalent in the state. There have been reported to the State Board of Health 37 cases in 11 different localities. Wichita leads with ten cases.

The physicians of Topeka must register in a book provided for the purpose in the office of the city physician, giving their names, addresses, schools from which they graduated and other information, and this must be done before December 20.

The New Medical Bill prepared by the legislative committee of the State Board of Health is liberal. It does not interfere with "Christian Science," osteopathy or any other "cures" so long as each system of practice is confined to its "school" methods.

LOUISIANA.

The graduation exercises of the Charity Hospital Training School for Nurses, New Orleans, were held December 12.

The New Orleans Board of Health has again been disappointed by the city council. Instead of $31,000, the sum asked for, the board is budgeted for the small and manifestly insufficient sum of $5000.

The Board of Administrators of the New Orleans Charity Hospital decided at its last meeting to add 100 nurses to the present corps, and thus to provide trained nurses for the male medical and surgical wards. It was also decided to erect a special building for the accommodation of the nurses, to cost $25,000. Plans for this building, which will be 40x120 feet, with dormitories, lecture room, library and sitting room, etc., will be submitted at the next meeting.

SHIPS COMING from plague-infected ports will now be detained only five days at New Orleans provided the new rules of the board of health are observed. "The vessels are to be disinfected in midstream, will anchor 100 feet from shore at night and forty-five feet from shore in the day time. Metal funnels will be used on the hawsers attached to the shore to prevent rats from leaving the ships, and men armed with shotguns will be stationed on shore and in skiffs to shoot any rodent that may attempt to get away. All dead rats are to be handled with rubber gloves and cremated. Long gangplanks closely guarded will be used to get the cargo ashore."

MARYLAND.

THE BOARD OF MEDICAL EXAMINERS of Maryland has granted license to practice medicine and surgery to 20 of the applicants who were recently examined by it.

Baltimore.

THE HEBREW charity fund now amounts to $10.415.

THE LAENNEC SOCIETY has been organized at the Johns Hopkins Hospital. It is the fourth society to be organized there and is devoted to the study of tuberculosis.

HEALTH COMMISSIONER BOSLEY has made the following appointments, to take effect December 15: Dr. Alan W. Smith, inspector of throats; Dr. Samuel A. Keene, medical examiner, vice Drs. Charles B. Canby and Albertus Cotton respectively.

A SUIT for $5000 damages has been brought against the Johns Hopkins Hospital by two individuals who claim to have received personal injuries through a live electric wire while walking along the street in front of the hospital.

THE TOTAL DEATHS for the week ended December 1 were 157, 38 less than the previous week, a death-rate of 14.26 per 1000 for whites and 20 per 1000 for colored per annum. There were 3 deaths from typhoid fever, 6 from diphtheria, 24 from tuberculosis, 5 from cancer, 19 from pneumonia and 16 from Bright's disease.

A METHOD by which infectious diseases may be often distributed through a community, has been brought to the attention of the health department. The law requires funerals in case of death from diphtheria to be held within 24 hours. It has been found that the mother of the deceased, either from being too poor to procure mourning clothes, or because of the short interval, borrows them from a friend. After the funeral they are returned without any attempt at disinfection. Mourning goods are especially adapted for conveying germs, as they can not be boiled like linen, etc. Cases have occurred in this city in which there is every reason to believe that diphtheria was communicated in this way.

MASSACHUSETTS.

DR. ARCHIBALD J. RAMSEY, superintendent of the Massachusetts Almshouse Hospital, Tewkesbury, assumed charge of the Long Island Almshouse and Hospital, December 1.

DR. J. HOBART EGBERT, Holyoke, sailed for Honduras, November 28. He is to be chief surgeon for the New York-Honduras Mining Company, and will have his headquarters at San Juancito.

THE AUTOMOBILE AMBULANCE, which has now been in commission for four weeks at the Massachusetts General Hospital, gives entire satisfaction. It is especially useful in transporting patients from the hospital to the Convalescent's Home at Waverley, a distance of eight miles.

DAMAGES amounting to $600 have been awarded Louise de Lisle, a dramatic aspirant, who sued Dr. Frank T. Brough, Boston, for $2000, because, as she alleged, he so removed a crease in her left cheek as to distort the position of her ear, and thereby prejudiced her chances of dramatic success.

THE COMMITTEE appointed to consider the division of the Somerville schools into medical districts under constant supervision, has reported favorably on the project. The board of health has been notified that the school authorities will cooperate with them, and the board of aldermen have been requested to provide the board of health with the funds necessary for the expenses of medical inspection.

MICHIGAN.

MASON COUNTY has an epidemic of smallpox. It is reported that there are a hundred cases in Custer and Scottville. Custer township is under strict quarantine.

AT MUSKEGON, Dr. Augustus G. Reelz was found guilty of practicing medicine without a certificate. A stay of twenty days was granted, and the case may be taken to the higher court.

CEREBROSPINAL meningitis was reported present during November at 4 places, whooping cough at 20, measles at 20, smallpox at 37, diphtheria at 75, scarlet fever at 168, consumption at 174, and typhoid fever at 254.

MENOMINEE is alive to the fact that smallpox prevails in the upper peninsula, and has issued orders that after December 10 no child shall be admitted to the public schools without a certificate of successful vaccination within seven years, signed by a practicing physician.

MISSOURI.

THE SUIT of Dr. James W. Crewdson, Louisiana, for medical services to the late Fielden Estes, amounting to $6900, was concluded November 24, when the jury returned a verdict of $2375 for the plaintiff.

A RECEPTION was held in the new addition to the University Medical College, Kansas City, December 7. On December 5 the new demonstrating and clinical room of the college was dedicated by Dr. Jabez N. Jackson.

A MEETING was recently held by a number of the prominent physicians of St. Louis to organize a post-graduate clinical school and hospital. The intention was to associate those, as far as possible, who had no allegiance in other directions, and who would be ready to give their entire attention to post-graduate duties. It is hoped that the organization can take place in time to begin work in the spring, so that in 1903, with the increase of medical men in St. Louis co-incident with the World's Fair to be held here, the college may be well under way and in good working shape.

THE NEW BETHESDA HOSPITAL for Incurables at St. Louis, was opened December 1. It has facilities for the accommodation of 80 patients. There is an excellently fitted up operating room, and an isolated ward for the treatment of contagious diseases. The entire three-story brick structure, without furnishings, electric lighting and newest sanitary appliances was given free from debt at a cost of something over $70,000 by Mr. R. M. Scruggs, of St. Louis.

THE CONSOLIDATION of two important medical colleges in St. Louis, under the name of the Marion Sims-Beaumont College of Medicine, which was effected November 22, is said to be preliminary to affiliation with the St. Louis University as its medical department. The Marion-Sims building at Grand avenue and Caroline street, with new additions already projected, will be used by the new college. The new institution will have abundant clinical advantages, the following institutions being under the control of members of the new faculty: Alexian Brothers' Hospital, Rebekah Hospital, St. Mary's Infirmary, Josephine Hospital and Grand Avenue Dispensary. In addition, the following hospitals will afford clinical material: City Hospital, St. Louis Insane Asylum, Protestant Hospital and Baptist Sanitarium. The governing faculty will include the following: Dr. Young H. Bond, gynecology and pelvic surgery; Dr. Leonidas H. Laidley, gynecology, pelvic surgery and clinical gynecology; Drs. Frank J. Lutz, Jacob Geiger, of St. Joseph, William A. McCandless and J. R. Dale, surgery; Dr. John T. Larew, surgical anatomy and clinical surgery; Dr. Thomas C. Witherspoon, operative surgery on the cadaver and clinical surgery; Dr. Clarence M. Nicholson, anatomy and clinical surgery; Drs. Carl Barck and Adolph Alt, ophthalmology; Drs. William G. Moore, Hugo Summa and George C. Crandall, medicine; Dr. Jacob Friedman, clinical medicine and chemistry; Dr. Joseph R. Lemen, chest diseases; Dr. Benjamin M. Hypes, obstetrics; Dr. Walter B. Dorsett, obstetrics and gynecology; Dr. Robert C. Atkinson, diseases of children; Drs. Charles G. Chaddock and Sidney I. Schwab, nervous diseases; Dr. Max A. Goldstein, otology; Dr. Hermann H. Born, anatomy; Dr. Remy J. Stoffel, therapeutics; C. D. Lukens, dentistry, and Bransford Lewis, genito-urinary diseases.

MONTANA.

COMPULSORY VACCINATION has been ordered in Butte and Silver Bow county.

SMALLPOX was reported during November in Butte, Anaconda, Carbonado, Bridger, Missoula, Dillon and Walkerville.

A NEW pest-house has been rendered necessary by the number of smallpox cases in and around Butte, and a building 100x20 feet will be erected at once, near the present isolation hospital.

THE TEMPORARY or ad interim board of health project has been abandoned, as it has been discovered that the governor has no legal authority to make such appointments. The matter, therefore, must wait until the legislature meets, when a bill will be introduced to create a state board of health, defining its duties and powers.

NEBRASKA.

DR. J. CAMERON ANDERSON, Omaha, on the inauguration of Governor-elect Deitrich, will be made surgeon-general of the state.

KEARNEY AND NORTH PLATTE are afflicted with smallpox. At the latter place, the public schools have been closed, public meetings discontinued and many men in the railroad shops laid off in the attempt to conquer the disease. Nebraska has no state system of local health boards. The organization is dependent entirely on the will of individual communities, and there is necessarily great difficulty in enforcing quarantine regulations, except in the great cities, on account of this fact. Dr. Victor H. Coffman, health commissioner of Omaha, makes an earnest plea for the prompt report of infectious diseases to him, and says that if the physicians of the state refuse to co-operate with the health authorities by reporting and quarantining smallpox, a serious epidemic is certain to occur.

NEW JERSEY.

DR. HENRY J. F. WALLHAUSER, Newark, is suffering from an attack of appendicitis, and is seriously ill.

CLAYTON physicians have organized and determined to make no calls within town limits for less than $1, or in the outlying districts for less than $1.25. They have also instituted a "black-list."

DAILY MEDICAL INSPECTION of schools has been inaugurated at Paterson, and a force of four physicians is at work examining all children isolated by their teachers. The inspectors are, however, not allowed to prescribe for the children either at their homes or at the schools.

THE CAMDEN Board of Health has decided on plans for the new municipal hospital, which contemplate a main building to contain detention, inquiry and operating rooms, and two ward buildings, each having a capacity of 15 or 16 beds, together with annexes, etc. The buildings will cost about $18,000.

THE BOARD OF EDUCATION of Orange has before it the proposition to appoint a competent physician who shall examine the pupils at all the schools at stated intervals, and also give instructions to the teachers in the detection of the first signs of disease. This system they aver, can be established at an expense not to exceed $200 a year.

NEW YORK.

NEW YORK STATE HOSPITAL for the care of crippled and deformed children of Tarrytown, established under the laws of 1900, is now open for the reception of patients.

THE NEW PAVILION of the House of the Good Shepherd, Syracuse, which contains chiefly private rooms, operating, anesthetizing and sterilizing rooms, is now ready for use.

THE BOARD OF HEALTH of Batavia has been instructed to secure some method of fumigation which will cost the town less than $5 a house, the amount at present charged by the physician who has this matter in hand.

THE SUPERVISORS of Erie county favor the erection of a consumptive pavilion to cost $42,000 this year, and a building for the care of cancer patients next year, to cost $32,000; the county architect has already submitted plans for the buildings.

THE TRUSTEES of the State Hospital for the Treatment of Incipient Pulmonary Tuberculosis report that after examining 26 sites they have selected one at the west end of Lake Clear, Franklin county, subject to the approval of the State Board of Health and the Forest Preserve Board.

THE OPENING of the new hospital at the Onondaga County House has suggested to Dr. Ely Van de Warker, Syracuse, a plan for utilizing the clinical material for the benefit of the students at the College of Medicine. To this end, he suggests the organization of a medical corps composed of the leading physicians of the city, who shall in turn give their services to the inmates free of expense to the county.

THE SEMI-CENTENARY of the founding of the Troy Hospital was celebrated November 28, at the Troy Club. Dr. David W. Houston presided; Dr. Solom E. Nichols, president of the hospital, gave a historical sketch of the hospital; Dr. William Osler, Baltimore, delivered an address on "The Influence of a Hospital on the Medical Profession of a Community," and Dr. William P. Mason, Troy, spoke on "Some Mediterranean Water-Supples."

Buffalo.

A PUBLIC HEARING by the supervisors committee on charitable institutions was given to representatives of all charitable societies which desire appropriations from the county for the coming year. Among the institutions which receive annual appropriations varying from $1000 to $1500 are the Buffalo Eye and Ear Hospital; the Charity Hospital for Eye, Ear Nose and Throat; the dispensary of the German Hospital; the University Dispensary, and the Fitch dispensary.

THE EXECUTIVE COMMITTEE of the Alumni Association of the University of Buffalo, has in preparation a novel program for the early part of the next year. An evening is to be devoted to the consideration of various features of medical education as it was, and now is in Europe. It is anticipated to illustrate these features by lantern slide views. The pictures to be shown will show the interior and exterior views of medical schools and hospitals ancient and modern, reproductions of paintings representing medical, pathological, hygienic and anatomic subjects, such as the school of anatomy by Rembrandt, etc.

New York City.

THERE ARE now 17 cases of typhoid fever in the state prison at Sing Sing. The supply of water is taken from the Croton reservoir, and this water is boiled before being used in the prison.

THE APPROPRIATION made for the Department of Public Charities for 1901, makes it necessary to reduce the payroll nearly $15,000, and it is thought this will involve the discharge of about 300 employees from the city hospitals.

AN ANNEX to ward 23 in Bellevue Hospital was formally opened, November 24. It has 12 beds and an especially well-equipped operating room, and is for women only. The donor positively refuses to allow her name to be published.

AN AMENDMENT to the charter of Bellevue Hospital, which has been proposed, provides that on Feb. 1, 1902, the control of Bellevue Hospital and its subsidiary institutions shall be taken from the Department of Public Charities and be vested in a board of seven trustees to be appointed by the mayor, to serve seven years.

SO FAR there have been 47 cases of smallpox reported to the board of health since the outbreak of ten days ago. While there seems to be no reason for expecting an epidemic, the occurrence of a few cases in sections of the city far from the locality in which most of the cases have developed, points to the probability of occasional cases appearing here and there for some time to come.

DR. JOHN BYRNE, the venerable and widely-known surgeon of Brooklyn, has been driven by the ravages of consumption in his family, to leave the homestead in Clinton street, where he has spent forty years of his life. Although he is hale and hearty at 75, and his wife appears equally vigorous, he has lost four children by the "white plague." In order to save his remaining children he will leave the old home at once, and travel in France for a time.

THE NEW private patients' building of the New York Hospital was thrown open for inspection December 5. The building is ten stories in height, and is equipped in a most lavish manner. The first floor is for executive purposes, the second for the hospital staff, and the upper floors contain rooms for the patients and operating rooms. At the rear is a separate isolated department, with an independent heating and ventilating system. This new addition to the New York Hospital has been made without stint of money, and the splendor of its appointments suggests the thought that it represents a doctors' trust.

OHIO.

THE STAFF of the Lawrence Hospital for Women, Columbus, has been increased by the election of the following as associate physicians: Demman R. Kinsell, Jr., Henry W. Whitaker, Elmore E. Adel, James C. Lawrence, Clarence C. Ross, Will W. Homer, Andrew B. Nelles, Edwin A. Hamilton and Thomas A Evans.

A physician of Cleveland, has caused the arrest of Dr. George F. Whitney, of the same city, and a graduate of the Medical Department of Western Reserve University, on the charge of practicing medicine without a license. He further alleges that Dr. Whitney is a spiritualist and gives prescriptions actuated by slate-writings.

DR. WILLIAM U. COLE, Columbus, Director of Public Safety, has already initiated experiments with germicides with a view to ascertain exactly what agent will suffice to disinfect a house effectually. He probably will order that all cases of tuberculosis be reported to the health department, that arrangements may be made for systematic disinfection at regular intervals.

PENNSYLVANIA.

BY A BEQUEST of Mrs. Paulline Auberle, a hospital for children will be erected in McKeesport. A total of $250,000 was devised to Catholic charities.

JOHN MAGUIRE, mining inspector of the eighth anthracite district, has reported that within the past eleven months 30 fatalities and 98 accidents have occurred among the miners of that district.

THE BERKES COUNTY DAIRYMEN'S ASSOCIATION, at its recent annual meeting held in Reading, called the attention of Deputy

Inspector R. M. Simmers to the fact that adulterated milk was being sold in that county. About 100 dealers will be placed under surveillance.

THE COMMITTEE of the Pittsburg common council, appointed six months ago to look for a site for a municipal isolation hospital for infectious diseases, now consider the Point the best available location, as it is chiefly occupied by warehouses, and as there are few residences in the locality.

RECENTLY a conference was held at Harrisburg in the interest of the public health, game, fish, and forestry protection, of this State. A bill increasing the appropriation of the State Board of Health from $6000 to $12,000 was endorsed, and a further appropriation of $50,000 was asked for to be devoted to the investigation of the pollution of streams supplying cities with water.

AT A RECENT meeting of the trustees of the State Hospital for the Insane located at Norristown, the position of resident physician occupied by Dr. Susan J. Tabor was declared vacant, and an advertisement for another resident ordered. The action of the board has stirred up a good deal of feeling, especially in Philadelphia, which is the home of Dr. Tabor, and since the complaint against her was "extravagance and wanton destruction of property" Dr. Tabor has demanded a complete investigation of the charges.

Philadelphia.

THE GERMAN HOSPITAL received $8074 in cash and about $1000 in other gifts, on its donation day, November 29. C. F. Rumpp and Sons sent a check for $5000 to endow a free bed for the use of employees of the firm.

A FRIEND of the University of Pennsylvania, whose name has not been made public, has recently given the sum of $4000 for the equipment of a physical laboratory in that institution, and has presented a fund of $550 to be devoted to prizes.

THE fourteenth annual dinner of the ex-residents of the Philadelphia Hospital was held last week, more than 50 members being present. The officers elected were: Dr. Edward L. Dwyer, president; Drs. H. C. Wood and J. K. Lineaweaver, vice-presidents, and Dr. E. R. Stone, secretary.

THE faith-curists, Sollenberger and Ezra Sheets, whose names have been mentioned several times in THE JOURNAL in connection with a "baby farm," were sentenced by Judge Audenried in the criminal court each to jail for a term of 3 months. They were charged with having caused the death of a child 7 months of age, by not calling needed medical attention.

THE HEALTH of the city during the past week has been unusually good, the total number of deaths being only 376. For the corresponding period of last year there were 412 deaths. The principal causes of death were: nephritis, 29; cancer, 14; tuberculosis, 57; heart disease, 38; la grippe, 2; pneumonia, 2; suicide, 2; diphtheria, 21; typhoid fever, 7, and scarlet fever, 1.

DR. RUSH SHIPPEN HUIDEKOPER has been commissioned as chief of a corps of veterinary surgeons provided by a recent act of Congress. The bill creating this department was introduced by Senator Penrose of Pennsylvania.

ON THE recommendations of Col. J. Lewis Good of the Health Department, Councils Committee on Fire and Health during the past week agreed to recommend the appropriation of $15,000 to provide quarters at the municipal hospital for the treatment of pay patients. It is suggested that a pavilion to cost $5000 be erected for patients suffering with diphtheria, and one to cost $10,000 for scarlet fever patients. Each department should accommodate 15 to 25 persons and the charge for a private room should not exceed $25 a week.

THE MEDICAL INSPECTORS of the public schools have effected an organization among themselves to be known as the "Society of Visiting Physicians of the Public Schools." A committee of this society has collected statistics showing that during the first eight months of the medical inspection 5876 cases of disease were found in the public schools, of which 3446 were contagious. Among the latter were 12 cases of diphtheria, 4 of scarlet fever, 112 of measles, 118 of mumps and 212 of pediculosis; contagious skin diseases, 116; ringworm, 753; conjunctivitis, 397; scabies, 8; whooping cough, 20; typhoid fever, 3; tuberculosis, 2; and scalp diseases, 8. More than 1000 cases of defective vision were found. A committee was appointed to present these facts before the sub-committee on Appropriations of Councils and to ask for an appropriation which has been unanimously endorsed by both the College of Physicians and the County Medical Society.

ANOTHER PHYSICIAN has been threatened with a lawsuit, which may in a measure have been due to the vigilance of a medical inspector of schools. It appears that a child attending one of the schools became ill and remained away from school about one monthh. On his return he was asked as to his ailment and his reply was that he had suffered from "diphtheria." This was referred to the visiting physician of the school, who ordered the books of the patient to be disinfected, and the boy was further ordered by the school medical inspector to get a certificate from his family physician to the effect that there was no further danger from contagion. It is said that the boy returned with a certificate from the doctor reading somewhat as follows: "This is to certify that —— has entirely recovered from diphtheria, and that there is now no danger of contagion." It is said this case had never been reported to the board of health and now the doctor has been prosecuted. The penalty is imprisonment, or fine of $50, or both.

SOUTH CAROLINA.

THE MEDICAL COLLEGE of the State of South Carolina, Charleston, held its opening exercises, October 1. The dean, Dr. Francis L. Parker, delivered the address of welcome.

THE GREENVILLE SANATORIUM was opened recently by its inaugurators, Drs. Thomas T. Earle, Curran B. Earle, and Joseph B. Earle. The building is located on high ground, two stories in height and thoroughly equipped. It is now ready to receive patients.

UTAH.

THE SMALLPOX situation in the state is alarming. In Salt Lake City, there are more than 50 cases; in Provo, 14; in Payson, "several hundred"; in Lehi, 18, and in Ogden, 20.

DR. EVERETT O. JONES, Murray, has resigned as district health officer, because the county commissioners declined to allow his bill for services to smallpox patients.

CHAIRMAN WILSON of the Salt Lake City Board of Education is strongly in favor of the medical inspection of schools and school children, suggested by Dr. J. C. Elliott King, health-commissioner, and will support the measure when it is brought up at the next meeting of the board.

IN SALT LAKE CITY, 31 new cases of smallpox were reported for the last week in November, making the total up to that time, 58. Of these 15 were in the isolation hospital, and the remainder under quarantine, presumably at their homes. Only four of the patients had ever been vaccinated.

WASHINGTON.

THE SEATTLE General Hospital has moved into its new building, which was opened for public inspection November 30.

A SEATTLE DAIRYMAN was fined the maximum, $99.99 for selling milk containing borax and other adulterants in the city. The case will be appealed.

THE PATIENTS at the Stellacoom and Medical Lake insane hospitals are increasing in number so rapidly that it will be necessary to enlarge the accommodations at both these institutions. At Stellacoom two new wings are to be built, one for male, the other for female patients, and at the Medical Lake institution a new wing for female patients is needed.

WISCONSIN.

AT THE COMING session of the legislature, the State Board of Health will endeavor to secure the passage of a law giving the established sanitary authorities more power to enforce vaccination.

THE PHI RHO SIGMA organized a Milwaukee branch on November 28. Dr. William F. C. Witte was elected president; Dr. Edward A. Gansel, vice-president and Dr. Edward W. Timm, secretary.

SMALLPOX is said to have broken out at Odanah among the Bad River Indians. The commissioner has authorized Indian Agent Campbell to institute quarantine and take such other measures as he may deem necessary.

THE MARRIAGE LAW, to be presented by W. L. Woodward before the next legislature, provides that a board of medical examiners be organized and maintained by the state, whose certificate that the applicants are free from "true insanity, inherited insanity, insanity resulting from vice; primary, secondary and tertiary affections of congenital organs; hereditary tuberculosis or consumption" must precede the granting of a license to marry.

GENERAL.

THE COMBINATION DIPLOMA MILL.

The long struggle between the regular profession as represented by the State Board of Health and the "diploma-mill" which has been notorious for several years past under various names, such as the "Illinois Health University," "Independent Medical College," "Metropolitan Medical College," etc., has been apparently brought to a satisfactory conclusion. Heretofore when legal proceedings have been taken against the in-

stitution it has promptly changed its name and continued the sale of diplomas without interruption under the same management. This time, however, the postoffice authorities caused the arraignment of Dr. James Armstrong, who is set down in Polk's Directory as a graduate of the Curtis Physio-Medical Institute, Marion, Ind., in 1892. Thomas Armstrong, secretary, and Dr. John H. Randall, vice-president of the institution and a graduate of the Chicago College of Medicine and Surgery, a physio-medical institution, in 1894, on the charge of using the mails to carry on a scheme to defraud. They were put on trial December 4, before Judge C. C. Kohhlsaat in the United States District Court. "Dr." C. K. Drumhiller, formerly "professor of anatomy" in the institution, said that he had found the methods of the defendants dishonest, and had left them. "Dr." Joseph De Barthe, Baker City, Ore., testified that he had purchased a diploma but had found it valueless in some states where he had attempted to practice. He was afterward engaged as "professor of medical jurisprudence." In his official capacity he made numerous trips to sell diplomas and quiet complaints of the "graduates" in various parts of the country. He acknowledged that he had sold a hotel proprietor a diploma for $125, and he received $20 from Dr. Armstrong for his services. They preferred to deal with out-of-town people, as they asked fewer questions. In case of annulment of its present charter, the institution had nine other charters in reserve which would allow it to operate for eighteen years at least. During his connection with the college, few of the "faculty" had appeared and fewer lectured. Occasionally a student would want to know something about medicine before being graduated, and such persons would be accommodated. Mrs. Eliza Fales stated that she had obtained a diploma in dentistry for a young man, "in absentia" after four hours' effort and the expenditure of $75. Former employees testified that they had signed the names of the faculty to diplomas which they also engrossed and mailed at the rate of about fifty a week. The prosecution then introduced a circular in which the "faculty" of the college attacked the old-school physicians and the "murderous surgical procedures of allopathy, homeopathy and eclecticism," and plaintively exclaimed: "What criminal injustice is this which refuses these brilliant, successful, skilful men (graduates of the Metropolitan) the right to relieve pain, ameliorate suffering and cure disease?" Dr. James A. Egan, Springfield, secretary of the State Board of Health, testified that the institution with which the defendants are connected has been opposed by the state authorities from the start, and that the state had been instrumental in revoking the various charters under which the school operated. Having settled these points, United States District Attorney Bethea called witness after witness to testify as to what qualifications for the practice of medicine they had when awarded diplomas by the Armstrong brothers. Various diplomates of the institution also testified. One who is announced as "professor of surgery" was a veterinary surgeon and as a "side-line" peddled diplomas to barbers, laborers and others. Another had assisted at one dissection—of the heart of a hog—and was instructed to practice in Kansas. A third, who had paid $128 for a diploma, was arrested when he attempted to practice in Chicago. The Armstrongs bailed him out and gave him 15 cents to pay his fare out of the state. He thereupon made complaint to Post-Office Inspector Gould. Evidence was then introduced that the requirements for graduation in the Armstrong school did not come up to those of any recognized medical college. For the defense, "Dr." Mary D. Barney testified that she had studied several months at the college, but was unable to recall the names or authors of text-books employed. She acknowledged that she was a lecturer in the institution. "Dr." Jarvis G. Haley, who secured a diploma in 1898, but had been "taking care of the sick for twenty years," testified that many lectures and clinics had been given. He said that the officials of the college considered the State Board of Health an illegally-constituted body. After arguments from counsel, the case was given to the jury, who found the defendants guilty under a statute which permits an extreme penalty of 18 months' imprisonment and a fine of $1,500. The passing of sentence was deferred until to-day, December 15. James Armstrong was held in default of $5000 bail and the other defendants were released on bail.

HAWAII is aroused because it is proposed to send certain California lepers, now confined in San Francisco, to Molokai. The Hawaiians assert that they are able to take care of their own lepers, but they object to their country being set apart as a perpetual leper lazaretto.

THE INTERIOR of Alaska is threatened with an epidemic of smallpox. Cases are reported along the Yukon from Dawson to the lakes, the town of White Horse being among the last reported. It is stated that the Indians are alarmed over the disease and fear extermination. Strict quarantine has been established at Skagway, and White Horse is under control of officers.

SMALLPOX in 37 infected states and territories in 1900 shows 4854 cases as against 1076 in the corresponding period of five months in 1899. In 9 states where no smallpox was reported last year, 500 cases have been reported thus far. Ohio had in 1900, 1523 cases; in 1899, 57; Texas, 583 and 189; North Carolina, 516 and 105; Minnesota, 492 and 71; Colorado, 372 and 7, and Wisconsin 297 in 1900 and none in 1899. Illinois has had 121 cases this year—117 from Cairo and 4 from Chicago, as against 7 in 1899.

THE MARINE-HOSPITAL SERVICE has just sent to Cuba two floating disinfecting plants equipped with all modern disinfecting machinery, for service at the ports of Matanzas and Cienfuegos. In constructing these barges, the hulks of sailing vessels were purchased, the necessary alterations made to fit them for the reception of machinery, and they were then provided with steam chambers, formaldehyde apparatus, sulphur furnaces, bichlorid pumps, etc. A large iron steamer took the two vessels in tow at the port of Philadelphia, and they arrived at their destinations during the last week without any mishap, and are now anchored in convenient positions in the harbors, ready for immediate service. The barge for Matanzas is named the *Guardian*, that for Cienfuegos the *Sentinel*.

THE SAMUEL D. GROSS PRIZE.

This prize of $1000 will be awarded on Oct. 1, 1901, no essay that was deemed worthy of the prize having been received on Jan. 1, 1900. The conditions annexed by the testator are that the prize "Shall be awarded every five years to the writer of the best original essay, not exceeding 150 printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens." It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page, it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery. The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 219 S. 13th st., Philadelphia," on or before Oct. 1, 1901. Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The committee will return the unsuccessful essays, if reclaimed by their respective writers, or their agents, within one year. The committee reserves the right to make no award if the essays submitted are not considered worthy of the prize. The trustees are: W. W. Keen, M.D., J. Ewing Mears, M.D., J. Chalmers Da Costa, M.D.

ANOTHER DECISION AGAINST MAGNETIC HEALERS AND MANIPULATORS.

A decision of the Appellate Court of the Third District of Illinois, filed December 7, on an appeal from the county court of McLean County, interprets section 7 of the medical-practice act of Illinois as including under the head of medical practitioners those who employ rubbing or manipulation of the parts affected as a healing agency. The only exception to the law, the court holds, is when the remedy is exclusively mental or spiritual. A person giving massage treatment to cure diseases is therefore a medical practitioner under the law. This decision affects magnetic healers and a large number of operators who claim to cure ailments by manipulations of various kind. The combination of "mental and spiritual" treatment with operative treatment is not exempted; the person must be an exclusive faith healer to escape the conditions of the statute. The appeal was made by the State Board of Health, and the decision of the county court is in the Board's favor, the case being remanded.

THE SPREAD OF BUBONIC PLAGUE.

Statistics on file in the Bureau of the U. S. Marine-Hospital Service show that during the year 1900 plague was transported into 22 ports and places by vessels arriving with the disease on board or with a history of its occurrence on the voyage. In the following named places it effected no lodgment and made no spread: Naples, Plymouth, Trieste, London, Cardiff, Bremen, Calais, Sio-Thiago in Cape Verde; Beirut in Syria; New York,

Port Townsend in Washington; Hamburg and Constantinople. In the remainder of the places the outbreaks were comparatively small, and did not assume the proportions of a great epidemic. This shows that a scientific knowledge of the disease renders it far less to be dreaded than formerly, and shows also a gratifying vigilance and alertness on the part of quarantine and health officers. The principal ravages of the disease have been confined to India, where from the last reports there have been 66,294 deaths during the year, and where it is notorious that the preventive measures undertaken by the British Indian Government have been seriously hampered by the religious fanaticism of the native population, and the difficulty of undertaking any epidemic suppressive measures without interfering with the laws of religious and racial caste.

CANADA.

CAUSE OF ARSENIC IN BEERS.

The recent report from Manchester, England, in connection with the deaths and illnesses which have occurred through beer-drinking, has directed some attention to the Canadian product and the vice. About twenty years ago legislation was introduced by Mr. Gladstone into the British Parliament authorizing the substitution of invert sugar for malt in the manufacture of beer, and the duty was removed from the malt and placed on the beer brewed. This change was known as the "Free-Mash-Tun" system. These invert sugars, as saccharin, glucose and maltose have to be treated with sulphuric acid, and it is when this is used impure, as it frequently contains arsenic, and the latter being soluble, is not separated, that the beer will contain arsenic. The two great countries which have adopted the "Free-Mash-Tun" referred to are England and the United States, whilst the two countries which have not adopted this system are Germany and Canada. In the latter the law provides that no substitute for malt whatever shall be used, the duty being imposed exclusively thereon, and no duties resting on the beer produced. In Canada no substitute is allowed under heavy penalties.

TUBERCULOSIS SANITARIUM.

The National Sanitarium Association has come forward with a more distinct and definite offer to build and erect near their Muskoka Cottage Sanitarium accommodation for the consumptives of Toronto. They will proceed with the work immediately and fully expect to have it completed in a year. No aid whatever will be asked from the city on account of capital account; and the institution will be available for the city's poor patients with free transportation to and from Gravenhurst on payment by the corporation of the City of Toronto of only the usual per diem allowance. The plans of the National Association also contemplate the erection of a suitable institution about five or six miles from the city for those advanced cases which have no hope of recovery. The National Sanitarium Association has already spent $77,000 on capital account for the treatment of consumption.

MONTREAL MUNICIPAL HOSPITAL.

The proposed new Civic Hospital for Montreal is getting well under way. Four pavilions for hospital purposes will be erected with a central administration building. Each building will consist of two floors and will accommodate fifty patients, with twelve beds for private cases. The estimated cost will be $100,000, which will be raised by means of a loan, repayable, principal and interest, within twenty years. The control of the institution will be in a joint board of nine members, made up as follows:—Five members, including the chairman to be appointed by the city council; two members to be named by the executive boards of the English general hospitals, and two members from those of the French hospitals. All matters of expenditure and finance will be subject to ratification by the city council.

FOREIGN.

FOURTEEN medical men have recently been elected, according to the *Lancet*, to the mayorial chair in England and Wales.

THE FRENCH minister of public instruction has notified the high schools—collèges et lycées—that anti-alcohol instruction should be given an official place on the program on a par with arithmetic or grammar.

THE FAMINE in India is nearly at an end. According to the correspondent of the London *Lancet*, those seeking relief are now only 1,250,000, and the Indian harvest promises to be a large one. The plague remains about the same, with a weekly mortality of about 2000.

THE ITALIAN physicians are endeavoring to have their parliament pass a bill restricting the issuance of licenses to foreigners holding diplomas from countries granting a like privilege to Italy. A clause, however, is attached thereto which practically will shut out all foreign practitioners. The envious native practitioner desires the wealthy American and English patients who winter in his land.

DR. R. FIELDING-OULD, Dr. C. Balfour Stewart and Dr. A. S. Grünbaum have recently been appointed lecturers in the Liverpool School of Tropical Medicine.

THE PARIS Faculty of Medicine have decided to establish a chair of tropical medicine for the purpose of teaching the parasitology and bacteriology of tropical diseases.

THE FRENCH chamber of deputies has unanimously adopted a resolution asking the government to prohibit the manufacture and sale of all alcoholic liquors pronounced "dangerous" by the Academy of Medicine. The resolution was aimed at absinthe. "The increase of the consumption of absinthe," said the mover, "marches arm in arm with the increase of cases of driveling insanity, which will end in becoming a national disaster."

IN THE name of twenty university professors of Germany, Austria and Switzerland, Prof. Max Gruber, of Vienna, has written a brief, forcible appeal to university students pointing out the terrible increase in venereal diseases in general and also among students, and portraying in plain terms the dangers to self and the future family. The urgent warning is given to seek medical aid at once in case of infection. Every newly-inscribed student receives a copy of this pamphlet.

THE BRITISH CONGRESS OF TUBERCULOSIS, notice of which has already appeared in these columns, will be opened in London on July 22, 1901, a week previous to the meeting of the British Medical Association. The congress will last four days. Delegates are to be invited from foreign countries, and it will be international to a certain extent. It will transact business in four sections, viz., Human Medicine, Veterinary Medicine, State Medicine and Pathology. One hundred pounds has been appropriated by the British Medical Association toward the expenses of the concern.

THE *Deutsche Med. Woch.* of November 15 publishes the brief, final report of the malaria expedition in charge of Prof. Koch. The party returned by way of the Carolina and Ladrone islands, where numbers of children were examined for malaria, but no traces of it could be found. Many persons were brought to him suffering from supposed syphilis, lupus or leprosy, but investigation disclosed that the disease was frambesia—yaws—in every case; in some of the islands every child examined was found to have it. Several genuine foci of malaria were located in the neighborhood of Cairo. None could be discovered in Northern Germany suitable for the purposes of the expedition, not even in the formerly notoriously malarial marsh lands along the coast of the North Sea. Malaria seems to be rapidly diminishing in Northern Germany. The expedition, therefore, considers its task provisionally accomplished.

Correspondence.

Newspaper Notoriety—A Protest.

CHICAGO, Dec. 5, 1900.

To the Editor:—Have medical men no protection against "write ups" in the columns of the daily press? In the *Chicago Daily News* of to-day appears an offensive and grossly incorrect sketch of myself which was not only unwarranted and without my knowledge or consent, but which deals with my blindness in a way that is most degrading to my self-respect. My only consolation lies in the consideration that those colleagues whose respect I value can not read that article without appreciating the fact that it could not have emanated in any wise from me. I have many times been solicited by reporters to allow them to publish sketches of my professional career. In most instances I have flatly refused such permission. In a few instances, when told that the knowledge of my endeavors would stimulate other unfortunates to rise above their affliction and would thus prove a help to them, I have consented to the publication of a sketch of my life. I have always, however, scrupulously avoided any allusion to the nature of my special line of work lest I should be accused of unprofessional advertising. And now comes an article which violates every sense of decency in my nature and brings my name before the public in a manner that is brutal in its disregard of my feelings. I am humiliated and chagrined.

ROBERT H. BABCOCK, M.D.

The Physician-Druggist.

SPRINGFIELD, OHIO, Dec. 10, 1900.

To the Editor:—In issue of December 8, of THE JOURNAL, p. 1485, in the editorial entitled "The Physician-Druggist" you state that there seems to be no adequate reason why regular medical societies should refuse membership to a physician-pharmacist. Please allow me to disagree with you very decidedly on this point. I know of no pharmacist that is not a dealer in all forms of nostrums and patent medicines; they display advertisements in their windows and shelves, and use many means to increase their sale. Is not this sufficient reason that they should be rigorously excluded from all regular medical societies? Or should we affiliate with them and pretend to endorse such methods as they pursue? Very respectfully, N. MYERS, M.D.

[Our correspondent evidently did not read the editorial right. Physicians can, and do have, drug stores in small villages all over the country, and yet are ethical and honorable. It is not necessary that they should "deal in all forms of nostrums," or that they should "display advertisements" and use other means to increase the sale of nostrums. If they did they probably would not make acceptable members of a medical society.—ED.]

A Warning Against a Possible Swindler.

PHILADELPHIA, Dec. 10, 1900.

To the Editor:—I learn by inquiries addressed to me, and by a letter returned from the Washington (D. C.) postoffice, that some swindler has gotten hold of some of my notepaper, cards and envelopes. Probably while pretending to wait for me in my absence he has slipped into my office and gotten them from my desk. He has been writing himself letters of recommendation upon my notepaper, and using my cards as introductions. He calls himself by various names. Dr. Von Liebig, Max Weil, and Dr. M. Lobo, are three that I have heard of. Will you kindly let me say through THE JOURNAL that I have given no letter of recommendation to anybody, except special letters addressed to special persons, and recommending medical men for special positions for which they have been candidates. I never give a letter of general introduction or recommendation, and especially not a letter asking for charity. Anybody presenting any such letter purporting to be signed by me, should be arrested for forgery, or whatever may be the technical offense. Yours very truly, SOLOMON SOLIS-COHEN, M.D.

Marriages.

G. MANNING ELLIS, M.D., to Miss Mary Loop, both of Chattanooga, Tenn., December 4.

OSCAR R. TOMLINSON, M.D., Tate Spring, Tenn., to Miss Bland Wilson, of Sewanee, Tenn., December 8.

LOUIS H. ALLEN, M.D., San Francisco, Cal., to Miss Maud Allen, of East Oakland, Cal., December 5.

EARL V. ADAMS, M.D., D.D.S., Birmingham, Kas., to Miss Lena May Sharp, of Topeka, November 28.

P. H. MAYGINNES, M.D., Cushing, Okla., to Miss Anna Catterlin, of Sedalia, Mo., November 27.

MAX ROTHSCHILD, M.D., to Miss Lucie May Jackson, both of San Francisco, Cal., November 27.

GUY WATTS WAGNER, M.D., to Miss Mabel Letitia Standidge, both of Chicago, December 5.

BARTON J. POWELL, M.D., Stockton, Cal., to Miss Mabel Lyon, of Sacramento, Cal., November 21.

J. LYMAN BULKLEY, M.D., Sandy Creek, N. Y., to Miss Lena Weston COX, of Ballston Springs, November 17.

HERMAN J. HUYETT, M.D., Milan, Ill., to Miss Jessie Perrine, of Livingston County, N. Y., at Davenport, Iowa, November 22.

WILLIAM COOPER EIDENMULLER, M.D., San Francisco, to Miss Goldie Jane Rounds, of Vallejo, Cal., at San Francisco, November 28.

Deaths and Obituaries.

LUDGER M. FINNEY, M.D., Tulane University, New Orleans, 1890, formerly assistant quarantine physician at the Mississippi quarantine station, and later sanitary inspector of the State Board of Health, serving in that capacity in several Central American ports, at his home in New Orleans, November 28, aged 38.

WALTER R. STEPHEN, M.D., University of Pennsylvania, 1872, an honor man in his class, who had practiced nearly 30 years in Reading, at his home in that city, from pleurisy, after a short illness, November 27, aged 49.

CLARENCE E. FOSTER, M.D., College of Physicians and Surgeons, New York, 1881, ex-coroner of Wayne County, at his home in Honesdale, Pa., November 26, aged 43.

WILLIAM W. DICKSON, M.D., McGill University, Montreal, 1858, at one time president of the Ontario Medical Association, and twice mayor of Pembroke, at his home, from typhoid fever, November 25.

WILLIAM N. BUSH, M.D., University of Georgia, 1857, a surgeon in the Confederate army, after declining health for several months, at his home in Lancaster, Ky., November 29.

WILLIAM G. HAY, M.D., University of California, 1895; assistant to the chair of dermatology in that institution, suddenly, at his office in San Francisco, November 26, aged 32.

FRANK A. CLARK, M.D., Jefferson Medical College, 1880, at his home in Shamokin, Pa., after an illness of two years, from paralysis, November 30, aged 59.

J. EDWIN MOSELEY, M.D., Vanderbilt University, Nashville, Tenn., 1898, after an illness of three weeks, at his father's home in Clarksville, Tenn., aged 25.

FREDERICK KEBLER, M.D., Ohio Medical College, 1875, at a sanatorium in Somerville, Mass., of which he had been an inmate two years, November 22.

ALEXANDER S. JORDAN, M.D., University of Pennsylvania, 1863, after an illness of four years at his home in Riegelsville, November 23, aged 61.

FRANK TUSTISON, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1864, at his home in Wapello, Iowa, November 25, aged 63.

THOMAS H. HOOD, M.D., Louisville Medical College, 1874, from apoplexy, at his home in Cynthiana, Ky., November 29, aged 58.

W. V. MARQUIS, M.D., New York University, a surgeon in the Civil War, at his home in Glenshaw, Pa., November 27, aged 67.

JAMES A. LORD, M.D., Rush Medical College, 1879, from Bright's disease, at his home in Edgerton, Wis., December 1, aged 42.

O. P. MCKAY, Jefferson Medical College, from pneumonia, at his home, Fayette, Pa., November 24, aged 56.

WILLIAM I. PAINTER, M.D., Jefferson Medical College, 1894, from typhoid fever, at his home near Double Springs, Ala.

WALTER C. PEASE, M.D., Jefferson Medical College, 1873, suddenly from heart disease at Cumberland, Wis., December 6.

CALEB W. PHARR, M.D., Missouri Medical College, 1851, recently, at his home, Clarksville, Mo.

GEORGE BURR BANKS, M.D., College of Physicians and Surgeons, New York, 1860, at Huntington, Long Island, N. Y., December 4, aged 67.

S. C. ANDREWS, M.D., at Newton, Ill., aged 62.

Miscellany.

Bogus American Diplomas.—From the report of a recent meeting of the General Council of Medical Education and Registration, as published in the English medical weeklies of December 1, we make the following excerpt, which is self-explanatory. Considering the action taken by the courts regarding the Armstrongs, as reported in this issue, it is also timely.

The following communication, remitted to the General Medical Council by the Executive Committee from the For-

eign Office in regard to the sale of false American diplomas, was received and entered on the Minutes:

FOREIGN OFFICE, Sept. 24, 1900.

Sir:—I am directed by the Secretary of State for Foreign Affairs to transmit to you, for the information of the General Council of Medical Education, the accompanying copy of despatches from Her Majesty's Consul at Chicago, respecting the sale of false American diplomas.—I am, Sir, your most obedient humble servant.

F. H. Villiers.

The Registrar of the General Medical Council.

BRITISH CONSULATE, CHICAGO, July 3, 1900.

My Lord:—I beg to report for your lordship's information that the Postal Inspector of Chicago has at last been able to arrest and to have held in heavy bail for trial Dr. Armstrong and his associates of the People's Institute, Van Buren Street, Chicago.

Armstrong and his partners, under various names, have been doing a very lucrative business in selling diplomas to persons in England, and their agent, Z. Whightman Van Appin, disposed of large numbers of useless diplomas in British India. I hope to obtain a list of the persons who purchased these diplomas in India from Mr. Van Appin, and will at once forward it to your lordship.

From a postcard that has been held by the postal authorities, who have been so good as to communicate it to me, I see that Mr. Allan Fisher, who styles himself M.D. and Ph.D., writing on the 15th ultimo from "Mere," "Wiltshire," to Dr. Armstrong, People's Institute, Van Buren Street, Chicago, states that he has delivered a Diploma of D.D. to a Mr. Johnson (no address given), who is very much pleased with it; and that he had hopes of selling two M.D. diplomas, for the sale of which he was in treaty with persons whose names are not mentioned.

The postal authorities also hold return postcards showing that Dr. Armstrong and company are in treaty with the following parties, either to sell diplomas or have already sold them diplomas: 1. Rai Tharoda Kanto Lahiri, M.D., 6612 Simla Street, Calcutta; and is corresponding with 2. Dr. Hassall, 76 and 80 Paul Street, Manchester, Eng.: 3. J. M. Lethera, M.D., House No. 3, Zier Thost Bang (?), Girgaum, Bombay, India; (This address is very indistinctly written.) 4. Z. Wightman Van Appin, care of Dr. J. Murdoch, 714 Shelby Street, Louisville, Kentucky.

I think the police will probably be able to find out some useful details of the business of bogus diploma selling by Dr. Armstrong in Great Britain from Mr. Allan Fisher, who is now acting as selling agent for the diplomas of the Independent Medical College and the Metropolitan Medical College of Chicago, Illinois. These so-called colleges have charters issued by the State of Illinois, the laws of the State being very lax in the matter of granting such charters, but their diplomas are being sold all over Great Britain and British India, and probably in the Colonies, to anyone who may be willing to buy them.

It is possible that Mr. Allan Fisher has been duped by Armstrong and company, but he is now evidently acting as their agent, and sells D.D. diplomas as well as M.D., signed by the same people, or rather by the same person, as it has been found out that all the signatures are made by a girl in different handwritings.

Armstrong and his associates have been held in heavy bail for trial for making use of the mails to defraud, and for the moment the diploma mill is said to be closed.

Her Majesty's government of India may also be able to find out through the addresses I have given above if there has been anyone appointed in India to sell the diplomas.

Mr. Z. Wightman Van Appin himself bought a Ph.D. and M.D., diploma for one hundred and forty-four dollars, and then was sent to India with a quantity of blank diplomas of all kinds to fill in.

I will inform your lordship later on of the result of the trial of Armstrong and company. (Signed) WM. WYNDHAM.

It is quite evident that the "Z. Wightman Van Appin" referred to is the same gentleman whose case attracted attention through an article in THE JOURNAL (July 7, p. 45) some months ago. At that time he was attempting to get a degree in one of the Louisville colleges, his name being A. Zwightman Van Noppen.

Societies.

Western Surgical and Gynecological Association, Minneapolis, Minn., Dec. 27-28.

Pan-American Medical Congress, Havana, Cuba, Feb. 4, 1901.

THE MINNESOTA VALLEY MEDICAL ASSOCIATION, at its annual meeting held in Mankato, December 5, elected Dr. Oliver H. McMichael, Vernon Center, president, and Dr. Edwin D. Steel, Mankato, secretary.

THE UNIVERSITY OF MARYLAND MEDICAL SOCIETY, on November 27, elected the following officers: Dr. Summerfield B. Bond, president; Dr. William I. Messick, vice-president, and Dr. Jose I. Hirsh, secretary.

THE SUPERIOR-DULUTH DOCTORS' ASSOCIATION, at its annual meeting held at West Superior, Wis., November 23, elected the following officers: Dr. Charles A. Stewart, Duluth, president; Dr. William E. Ground, West Superior, vice-president, and Dr. John B. Weston, Duluth, secretary-treasurer.

THE NORTHERN CENTRAL ILLINOIS MEDICAL ASSOCIATION held its twenty-seventh annual meeting, December 5, and elected Dr. Fernando C. Robinson, Wyanet, president; Drs. John Ross, Pontiac, and Jane Reid Keefer, Sterling, vice-presidents and Dr. George A. Dicus, Streator, secretary and treasurer.

THE LOUISVILLE CLINICAL SOCIETY, at its annual meeting held November 27, elected Dr. Ewing Marshall, president; Dr. John R. Wathen, vice-president, and Dr. Philip F. Barbour, secretary, and appointed a committee consisting of Drs. William H. Wathen, Joseph W. Irwin and Martin F. Coomes to co-operate with the health officer in arousing interest in the matter of the health of the city and in securing facilities for the examination of milk, foods and water, and for the care and protection of children from the contagious diseases.

THE ST. LOUIS MEDICAL SOCIETY, at its meeting held December 1, listened to a paper by Dr. Hugo Summa on "The Diagnostic Value of a Floating Tenth Rib." He maintained that its floating condition might properly lead one to suspect maldevelopment in various other ways. He gave many instances where the condition existed, that showed post-mortem bilobed, lobulated or otherwise malformed kidney; a peculiar spleen, an anomalous liver or other anatomical peculiarities due to arrested development. The discussion was participated in by Drs. Bartlett, Meyer and E. W. Lee, the last of whom cited corroborative instances.

Chicago Neurological Society.

Clinical Meeting, November 1, 1900.

Vice-President Hugh T. Patrick, in the chair.

INTERMITTENT CLAUDICATION AND ATYPICAL SCIATICA.

DR. HUGH T. PATRICK presented a patient with what he considered to be atypical sciatica dependent principally on arterial disease and hence closely related to the "claudication intermittente" of Charcot.

In this connection he briefly related the principal features of a case which he had hoped to also have present in person. The patient was a woman, 66 years old, who had been in fairly good health until about six months before, when she began to have trouble with the lower extremities. The legs below the knees became slightly swollen and somewhat painful, especially at night, and she was greatly annoyed by paresthesiæ and muscular cramps. Within the last few weeks tingling and numbness had appeared in the last two fingers of the right hand, and she said that in cold weather the fingers turned greenish white and seemed to be dead. In addition to the sensory symptoms, she complained of great weakness of the legs, particularly after walking a short distance, and on examination it was found that although she started off fairly well, after walking about twenty yards the steps became small and somewhat uncertain and thereafter progression rapidly became more difficult until she was compelled to come to a full stop. The pulse was 95 and small and was not to be felt in the dorsal artery of the foot on either side. There was slight anesthesia of the foot and the Achilles jerks were absent.

The patient presented was a man 69 years old who, twenty-eight years before, had had severe sciatica beginning on the left side, afterward extending to the right and lasting more than four years. Twelve years ago he had a similar attack, but active treatment in the beginning limited its duration to a few weeks. The present trouble began nine years ago much as the previous attacks had done, but was less acute and almost immediately involved both sides. From the first the pain was not severe, indeed, could scarcely be described as a pain at all, but was rather a sensation of drawing or pressure with intensely disagreeable paresthesiæ and intense restlessness of the legs. Although the discomfort was greater in the region just below the sciatic notch on either side, none of the ordinary signs of sciatica were present. The patient complained particularly of the fidgety feeling and paresthesiæ which prevented him from getting to sleep and of the weakness and increase of the sensory symptoms caused by walking. Examination showed a senile heart with a systolic murmur, and a distinct, although not advanced, arteriosclerosis. It should be added that for some time the patient had been troubled with attacks of transient dizziness. The pulse in the dorsal artery of the foot was good and the urine normal.

SYRINGOMYELIA IN A NEGRO.

The next patient presented was a pure negro, 26 years of age, who had noticed at the age of 15 or 16 that the right hand was not so strong as formerly. From that time the progress of the disease had been steadily forward until at the present time he gave the symptoms of a syringomyelia extending from the lumbar enlargement to the nucleus of the sixth nerve. The

distribution of the sensory disturbance was of particular interest. There was practically no disturbance of the tactile sense; analgesia was limited to the right arm and right half of the body, in front from the chin to the groin and behind from the vertex to the buttock, while thermo-anesthesia was present in this area and also involved the left arm, the left lower extremity from the crest of the ilium down and the right lower extremity from the knee down, leaving uninvolved only the left half of the body from the clavicle to the crest of the ilium and the right thigh.

SODIUM BROMID FOR MORPHIN HABIT.

DR. ELBERT WING reported a case of morphin habit treated by the administration of sodium bromid in very large dosage. The patient was the wife of a physician and was formerly a trained nurse. She was 28 years old, in excellent health and was taking from ten to fifteen grains of morphin hypodermically daily. Her heart, lungs and kidneys were normal. There was constipation. The treatment was commenced with two drams of sodium bromid given in a half glass of water every two hours through the day until five doses or 600 grains per diem had been given. Through a misunderstanding the dose was exceeded twice. Direction was given that the patient was to have morphin when she asked for it. The diet was restricted and mainly of milk.

The treatment was carried on for a few days and a large quantity of bromid given, which apparently had the effect of producing restlessness, delirium, and other unpleasant symptoms, in spite of tonics simultaneously administered. It was discontinued, but pneumonia developed and carried the patient off on the seventh day.

Dr. Wing gave a résumé of Dr. Neil Macleod's nine cases, and two of Dr. Church's, treated by sodium bromid, the treatment being instituted for the cure of drug habits, either morphia, chloral or alcohol. Dr. Macleod thinks the method without or with little danger, even at home. Dr. Church thinks it may be undertaken with full hospital facilities. The cases so far reported seem to point to the following conclusions. The method is not without danger and should not be undertaken with heart, lungs or kidneys not normal, and never in septic conditions. Macleod's original dosage, namely, 1 ounce the first day, 1 ounce the second day, ½ ounce the third day, if necessary, should not be exceeded without first waiting twenty four hours. If then resumed, it should be with great caution. In any case, very perfect care should be taken to guard against taking cold.

DR. ARCHIBALD CHURCH said that while the bromid treatment did cure the opium habit, it nevertheless remained a fact that 33 per cent. of reported cases had proved fatal, and emphasis was laid on the fact that large doses of bromid might be dangerous.

DR. MOYER said that Dr. Bannister and himself had presented, in 1881, a joint paper, read before the American Neurological Society, on "Bromid Mania." It was clearly shown that small doses of bromid would cause mania in certain cases of otherwise perfectly normal individuals. Certain German observers have noted the same thing. Bromid is certainly capable of making most profound body disturbance. Mention was made of a patient losing 50 pounds in weight in three months while taking moderate doses of bromid. At another time the same patient lost 30 pounds in a similar way, but regained weight after discontinuing the salt. Dr. Moyer considers the bromid treatment of the opium habit and of alcoholism as unsatisfactory and that we have better and safer means.

DR. C. H. LODOR called attention to the fact that the dose, as given, of bromid, did not represent the amount in circuit when the bromid was being given continuously. If 400 grains be given at a dose in twenty-four hours, but one-half of said dose will have been excreted and Drs. Bill, Quincke, and Ware have severely proved that in forty-eight hours after a given dosage a sixth of the dose still remains in the circulation and traces may be found in the urine weeks after cessation in the use of the bromid. It would then be very essential to use extreme care in continuing massive dosage of bromid.

DR. J. B. HERRICK quoted Dr. W. Mitchell as authority for untoward symptoms in the administration of the bromid, which symptoms may or may not disappear on withdrawal of the drug.

DR. S. KUH maintained that the relatively smaller doses suggested by Dr. Wing and even withdrawal of the drug for twenty-four hours, did not constitute a safeguard. A case is mentioned where even 20 grains of the bromid, four times a day, had caused alarming symptoms.

DR. HUGH T. PATRICK related a case of alcoholism when 1 dram of the bromid was given every hour until 16 drams had been given. The symptoms then became alarming; the pulse and respiration were slow, with cyanosis and incoherency. After thirty-six hours there was a gradual improvement and the treatment was successful.

DR. DANIEL R. BROWER mentioned a case where 15 grains of bromid caused, on several occasions, maniacal symptoms.

New York County Medical Association.

Stated Meeting, Nov. 19, 1900.

President Dr. Parker Syms, in the chair.

UTERINE MYOMA.

DR. GEORGE T. HARRISON presented a large myoma, which had been removed by enucleation after it had been converted into a submucous tumor, apparently by a course of thyroid extract.

GENERAL SEPTIC PERITONITIS.

DR. IRVING S. HAYNES read a paper with this title. Under the head of general septic peritonitis he included all cases of inflammation of the peritoneum, septic in origin, and unlimited in extent by adhesions. Of the 15 cases forming the basis of the paper, 8 had been caused by rupture of the appendix. The early vomiting in cases of general septic peritonitis he said was the result of shock, and was not of importance unless its character and persistency indicated obstruction. In his adult cases the pulse, in the early stages, had ranged between 90 and 120, the unfavorable cases showing a tendency quite early to a rapidity of pulse beyond the average. At first the temperature would be only between 101 and 102 F. One of the earliest signs of improvement was a disappearance of the characteristic anxious expression of countenance. These persons invariably die if not operated upon, and although even with operation the mortality was very high, operative intervention held out the only hope. Having opened the abdomen, the cavity should be most thoroughly irrigated with normal salt solution, the process being kept up until the fluid returns clear. He did not favor sponging or unnecessary handling or exposure of the bowel. Full strength solution of hydrogen peroxid might be used in small areas provided it was followed by washing with saline solution, but he would not advise its more extensive use, because it undoubtedly injures the epithelium. If the distention of the bowel were excessive, it might be necessary to reduce this by making a small linear incision into the bowel, closing it afterward by suture. The "wick drain" was probably the best. In conclusion, the speaker warned against overstimulation of the heart by the too free use of cardiac stimulants, though he did not think one was likely to use too large a quantity of whiskey by the hypodermic method of administration.

DR. CHARLES N. DOWD said that reports indicate an encouraging percentage of recoveries in these cases which, only a few years ago, had been looked on as uniformly fatal. The good results are not dependent on the particular technique employed. In general, the successes had been among the mild cases of general septic peritonitis—those border-line cases in which the effused serum is cloudy, and thick pus, if present at all, was limited to the site of infection. Recovery almost never occurred in cases showing thick pus and flakes of fibrin scattered through the coils of intestine, or numerous localized abscesses.

DR. BENJAMIN T. TILTON did not look for any great improvement in the present surgical technique, but rather for better statistics as a result of the medical profession as a whole bringing these cases earlier to the surgeon. He objected to the method of wiping off the intestine, for this did not fully meet the indications, though inflicting trauma on the peritoneum.

DR. A. BROTHERS said that he had tried Dr. George R. Fowler's method of elevating the head of the bed to favor the escape of pus, and he was convinced that this simple plan would sensibly diminish sepsis. He had formerly advocated free flushing of the peritoneal cavity, but at the present time he only resorted to it in cases in which a large quantity of pus had been already distributed throughout the cavity. Ordinarily such flushing did more harm than good by disseminating the septic matter.

DR. JOHN F. ERDMANN endorsed the technique recommended by the last speaker. Where there were pus foci, he used peroxid of hydrogen locally, followed by salt solution.

DR. HYNES, in closing, said that his experience had been that most cases operated on within six or eight hours after the occurrence of infection would recover. He was not in sympathy with those who spoke against flushing the peritoneal cavity, and was disposed to believe that such irrigation would not tap the lesser peritoneal cavity.

THE USE OF HOT WATER VAGINAL INJECTIONS.

DR. J. H. BURTENSHAW read a paper on this subject. He said that the use of such a douche for only five minutes had the opposite effect of that intended, i. e., it increases the pelvic congestion. At least three gallons of water should be used for each douche, and its temperature should be between 107 and 120 F. The hips should be raised, and the patient should be directed to remain in the recumbent position for half an hour after the douche.

DR. GEORGE T. HARRISON wished full credit to be given to Dr. Thomas Addis Emmet for having given to the profession this exceedingly valuable therapeutic measure. In his experience it had proved invaluable in cases of parametritis following childbirth.

DR. J. RIDDLE GOFFE said that he had found it convenient to have the patient lie on a wooden top fitted on the bath tub and take the hot water from a combination faucet. He prized these douches highly, yet he was convinced that their employment after many perineal and vaginal operations was responsible for anemia of the parts and consequent interference with healing. The insertion of a light vaginal tampon was preferable.

DR. FREDERICK P. HAMMOND said that the all-important point was not the quantity of water, but the duration of the douche. By diminishing the caliber of the outlet as much good could be done with one gallon of water as from three gallons. An effective douche would cause a determination of one-third to one-half of the blood to the pelvis, hence it would produce headache in anemic persons—indeed hot vaginal douches should be forbidden until the anemia had been controlled. The douche was also contraindicated in acute perimetritis or salpingitis. In cases of uterine or cervical dysmenorrhea without much ovarian implication, a prolonged hot vaginal douche would give great relief.

DR. W. EVELYN PORTER said that he was able to secure for his patients all the benefits of the prolonged vaginal douche by using a moderate quantity of water and regulating the outflow by pinching the tube from time to time. By the use of a Kemp's tube, a T-bandage and a vulvar pad the douche could be given very satisfactorily.

DR. A. B. TUCKER remarked that he had been surprised at the great benefit experienced in many cases of retrodisplacement from the proper use of the hot douche.

DR. F. H. WIGGIN thought this advocacy of the hot vaginal douche was a long step backward, and did not accord with modern surgical notions.

DR. A. PALMER DUDLEY took a similar view. He said that even the young men going out from the Woman's Hospital today were not so deeply impressed with the value of the douche, particularly as it had been demonstrated that its action did not extend beyond the cellular tissue.

Chicago Medical Society.

Weekly Meeting, November 28, 1900.

President Dr. J. H. Stowell in the chair.

DR. A. H. FERGUSON exhibited a patient on whom he had performed a Schede operation for chronic empyema. Dr. Joseph Zeisler showed a case of acromegaly. Dr. H. H. Rittenhouse reported a case of ankylosis of both elbows following acute arthritis.

DR. A. F. LEMKE presented six cases of pulmonary tuberculosis that had been under the compression treatment in various stages of the disease at periods varying from two years to a few months. These were selected to show the effect of the treatment on the various manifestations of tuberculosis of the lung. In some the diseases was unilateral; in others bilateral. The good effects of compression locally are brought about by the limitation of areas of disease already existing by favoring fibrosis in and about these areas; by occluding the avenues of dissemination of the virus, and by compressing cavities to enable them mechanically to heal. Other effects of compression are due to rest of the organ as a whole; emptying of secretions; prevention or diminution of absorption of toxic bodies; prevention of secondary infections, and the diminished tendency to hemorrhage. There is anatomical evidence that compression will further the natural tendency on the part of the tissues to cicatrize. That it will palliate is shown by diminution of cough, of expectoration, of fever and sweats, and by the almost constant tendency to gain in weight. There is no evidence that fresh tubercles can develop in a compressed lung. Average quantity of nitrogen, which may be introduced into the pleural cavity without untoward effects is 120 cubic inches. Healthy lung tissue may be compressed for a year or more and retain its capacity for expansion upon the removal of pressure. Experiments were made on dogs, in which the left pleural cavity was injected with nitrogen or normal salt solution every two weeks during a period of eight months.

The following are the uses of intrapleural injections of nitrogen: 1. Curative in pulmonary tuberculosis. 2. Palliative—to prolong life for weeks or months, although the disease may be too extensive to make recovery probable; to diminish fever and expectoration; to check pulmonary hemorrhage; to compress cavities, tuberculous and otherwise, and establish mechanical conditions that will permit their healing. 3. To compress the lung just prior to surgical operations in which the pleural cavity is to be freely opened and to determine the presence or absence of pleural adhesions before opening the pleural cavity to drain, to drain abscess or bronchiectatic cavities, cysts, etc.

DR. WILLIAM A. EVANS said that compression tends: 1, toward the development of those processes by which repair in tuberculosis is accomplished; 2, toward limiting the tubercular process, which is necessary for repair, and in order that the tubercle bacilli shall not spread to other parts of the same lung or to the other lung. Two points should be remembered: cure of the nodules already established, and the possibility of preventing the spread of those nodules to other areas of the lung. Compression exercises a remedial effect on hemorrhage. It tends to prevent it, and in cases in which hemorrhage is a feature compression prevents the continuance of the hemorrhage. At no period in the development of tuberculosis is the spread of the disease so rapid, the generalization of the tubercular process so frequent, as subsequent to hemorrhage. It is said that tubercle bacilli are found in the wall of the bronchial tubes and are carried there by the blood stream, and in consequence there is a dissemination of the tubercular process in the lung. If this method of healing has no other field, it would be indicated in those cases in which life is threatened by hemorrhage. The speaker referred to another group of cases in which it was thought, at first, that the use of the method would have but a small field, namely, those in which there is considerable elevation of temperature; but actual experience with the method proves that the fever almost universally subsides after the affected lung is compresssed.

DR. R. B. PREBLE said that he had been much interested in the work of Dr. Lemke upon this subject, and knowing his enthusiasm he submitted his first report to analysis, and, he hopes, impartial criticism. (See THE JOURNAL of October 14, 1899, p. 959.) The first thing to impress him was

that many of the cases had been under observation for very short periods of time, and on tabulating them he found that seventeen of his 53 cases had been under observation for periods varying from one day to one month. He rather arbitrarily selected one month as the limit below which he could expect no consideration for his method except as a treatment for the symptom hemorrhage. In placing the limit as low as one month as a period of observation of so chronic a disease as pulmonary tuberculosis, he had been at least generous. Deducting these cases there are 36 cases under observation for periods varying from one to nine months. From this list he had deducted the cases in which Dr. Lemke admits that there is no, or only questionable improvement, the cases distinctly worse, one which died of peritonitis, seven who were sent to a more favorable climate, and one, Case 14, in which there seemed to have been a mixed infection of tubercle bacilli and leptothrix. Together these amount to 20 cases, leaving 16 in which Dr. Lemke claims, and apparently justly, to have obtained improvement.

Submitting these cases to further analysis, Dr. Preble made two sub-groups, one of four, and the other of twelve, cases. In the smaller group, there has been a gain in weight of 22, 12, 17, and 25 pounds. In two cases the physical signs disappeared; in one the signs were lessened, the temperature reduced to normal. In one case there is the marked gain of 25 pounds, but the patient still coughs and expectorates freely, and the temperature continues. Two of these cases might be regarded as cured, and in both the others there has been a marked improvement. Of the 12 cases in which improvement may be regarded as slight, to moderate, there was a varying gain in weight up to ten pounds, and averaging 4.33 pounds, and in no one of these did the cough or expectoration disappear. In 4 of this 12 there is no statement of the condition of the lungs at the end of treatment; in the other 8 the signs are lessened and improved. These results do not seem to the speaker to be very encouraging, especially when it is considered that many of the best established aids to the recovery of tuberculosis have been added to the injections of nitrogen. This is not stated by Dr. Lemke in his article, but has been stated to him—Dr. Preble—personally by Lemke. This is as it should be, but it seriously interferes with the interpretation of results, particularly as Dr. Lemke's results are not markedly better than have been obtained by established lines of treatment. There are two cases in the series to which he desired to draw particular attention—Cases 20 and 17. During the second injection given Case 20 a pneumothorax did not develop, although the gas passed freely through the needle. It was inferred that the tip of the needle was within the lumen of a bronchus, thus allowing the gas to escape into the air-passage. There is nothing of importance about this except that the needle might equally well have stopped within the lumen of a blood-vessel, which would have been a very serious affair. A number of the cases suffered from syncope and dyspnea, which might easily be referred to emboli of gas perhaps of the pulmonary artery. One case, during the second injection, went into collapse, and, when restored, showed a complete right-sided hemiplegia from which he has never recovered. Here one is justified in the thought that the needle stopped in the lumen at some branch of the pulmonary vein and led to gas embolism of the vessels of the left internal capsule. About two years ago Janeway reported two cases of transient hemiplegia following the injection of hydrogen peroxid into an empyemic cavity. These cases were thought to be probably due to gas embolism, and resulted from the development of a small amount of gas in an opened pleural cavity. The same accident has been observed during irrigation of an empyema cavity. These cases would suggest that possibly the same thing might happen from injection of the gas into the pleural cavity. No one can know where the inner end of his needle is, and in this is the great danger.

To sum up, are physicians justified in taking up a method which has inherent in it serious sources of danger, such as are illustrated by Case 17, when a review of the cases reported shows only a questionable improvement over the usual methods of treatment?

DR. JOHN B. MURPHY discussed the danger of the compression treatment. In the early use of the method the first thing he feared was a separation of the pleura itself from the apex, producing paralysis of the vocal cords, and finally death. Two such cases had been reported from the mechanical separation of the pleura from the apex. As to accidents, something like 1400 injections have been made, with only two accidents, one a fatal hemorrhage on the table, when the needle was inserted into the pleural cavity, before the gas was connected. The patient had had repeated hemorrhages before, and he believes that this hemorrhage was due to the excitement of the patient. The second accident was one in which paralysis followed the injection of the nitrogen gas, the gas, he believes, having entered a vein. In his earlier work by the compression method he feared this accident might occur, but now he believes there is no danger from that source whatever, because he had learned to know that the gas is admitted without pressure instead of with it; the nitrogen is aspired into the pleural cavity, and not forced into it. If the needle should enter a vein, the current will not be in, but out. All things considered, he believes now the treatment can be administered without danger to the patient, in fact, with much less danger than any operation of magnitude of which he knows. Practically, what are the results? 1, there is cessation of cough; 2, after a few days diminution of expectoration; 3, reduction in temperature, and often the temperature is reduced to normal; 4, the patient gains in weight. Is there any other method of treating tuberculosis in which this occurs with the uniformity that is noted by the compression treatment? He was glad that Dr. Lemke did not speak of the cases as being cured. He felt that at the end of three or four, or possibly five or six, years, the cases could be referred to as having been cured. If he had a cough, elevation of temperature, expectoration, and repeated hemorrhages, and all these disappeared, he would not care a fig whether his case was called a cure or simply a subsidence of the symptoms, because the result is the same to a patient.

DR. WILLIAM E. CASSELBERRY referred to the Koch, the Bergeon, and other methods of treating tuberculosis, which have failed, and said the method that had been outlined was suitable for a certain class of cases, particularly cases of apical tuberculosis limited to one side. It is suitable for cases of hemorrhage in which the tubercular process is not widely disseminated through both lungs. It is seemingly suitable also, to a limited extent, in cases in which there are adhesions and high fever. Personally, if he had an apical tuberculosis, he would not hesitate, if he were one of the patients selected as best adapted to the method, to avail himself of its advantages.

DR. LEMKE, in closing the discussion, referred to emboli resulting from the introduction of the gas into the pleural cavity. This accident occurred in but one of the series of cases, and this patient was one of the first who was subjected to the treatment. Hemiplegia in one case was evidently due to gas embolism, although he was not positive about this. This was the only case in which hemiplegia had occurred out of 1400 injections. Aspiration, in cases of hydrothorax, is said to have caused hemiplegia, the result of an embolus that has been separated from a thrombosis of the pulmonary vein or some of its branches. Again, there are cases on record where simple operative procedures, such as involve the irritation of the pleura, have given rise to transient hemiplegia. So the hemiplegia might not have been due to gas embolism in the case mentioned. He was particularly careful not to speak of any of the cases as cured, because many physicians believe that a period of four to six years should elapse before using this word in its literal sense. The dangers of making the injections are practically *nil*. He had never seen any case in which the pleura has been infected as the result of injection, consequently this should not be considered as a danger. Some of the patients, when injected for the first time, have experienced considerable dyspnea; others have fainted and had to be stimulated. But this was largely psychical, and possibly in some cases it was due to the fact that the lung was compressed rather suddenly. In other instances he has observed a tendency to syncope. During the second and third injections these symptoms, were not ob-

served. Symptomatically the patients he had exhibited were cured, in that the temperature was normal, cough and expectoration had disappeared, and they had gained considerably in weight.

College of Physicians of Philadelphia.

SECTION OF OPHTHALMOLOGY.

Meeting October 16, 1900.

President Dr. George C. Harlan, in the chair.

DR. WILLIAM THOMSON exhibited two men operated on at the Wills Eye Hospital for removal of metallic foreign bodies by the small magnet from posterior portion of the eyeball. In one case a piece of iron 8 by 1.5 mm. penetrated the inner side of cornea near horizontal meridian and was located by the X-rays imbedded at a point 5 mm. below and 3 mm. to the temporal side of the macula. Body was removed through a scleral incision, and very little reaction followed. In the second case a chip of steel entered the cornea 2 mm. above and to the outer side of the center, wounding the iris and the lens and imbedding itself, as shown by radiographs, 2 mm. above and 6 mm. to nasal side of macula. The lens was extracted, after which the foreign body was removed.

DR. GEORGE C. HARLAN showed an Italian girl 14 years of age, presenting the history and the ophthalmoscopic appearances of embolism of the central artery except that the arteries contain blood and pulsate freely on pressure. The patient appeared to be in perfect health. Sight was suddenly lost in the right eye on October 7, and she appeared at the Pennsylvania Hospital two days later. The fundus presented a grayish appearance; the red spot of macula was darker than normal; the vessels were slightly obscured, and there was retinal opacity; arteries were normal in caliber and pulsated freely on pressure. There were no hemorrhages. Urine and blood were normal. No marked change in the disc exists. The diagnosis at first seemed to indicate venous thrombosis.

DR. GEORGE E. DE SCHWEINITZ suggested that hemorrhage into the nerve sheath might be responsible for the condition.

DR. S. D. RISLEY exhibited a man from the Wills Eye Hospital, 59 years of age, on whom he had performed simple extraction of cataract in each eye. Vision was 6/5 in each eye and the man enjoyed perfect binocular vision both for distance and in reading; the pupils were central and round, and reacted normally to light. There were no adhesions.

DR. WILLIAM M. SWEET reported a case of a piece of glass in the ciliary body located by the Roentgen rays and its removal with forceps. The injury occurred to an engineer from an explosion of a locomotive oil glass on March 1. A fragment penetrated the cornea in the lower outer quadrant near the sclera and passed through iris and periphery of lens. Three months after the accident the lens had been absorbed, but haziness of the vitreous prevented a view of the interior globe. The position of the foreign body has been revealed by the radiograph. It was situated close to the ciliary body at its lower temporal portion. An iridectomy was performed at the Jefferson Medical College Hospital, through an incision at the lower outer corneoscleral junction, and a pair of forceps passed up to the spot indicated by the radiograph. The glass was subsequently removed. Warm saline solution was injected to replace the amount of vitreous lost. The man was discharged cured on the eighth day.

DR. GEORGE E. DE SCHWEINITZ reported some cases of traumatic palsies of the ocular muscles, with causes: paralysis of the inferior rectus from a knife thrust; division of the pulley of the superior oblique during an operation for abscess; injuries to the superior oblique; paresis of the right inferior rectus following a fall on the left side of the head and forehead, spontaneous disappearance of the ptosis; traumatic paresis of right superior oblique following a fall on the right supraorbital region, later paresis of accommodation, complete recovery; paresis of left inferior rectus following a fall on the head succeeded by concussion of the brain, recovery; paralysis of left superior oblique following a fall on the head succeeded by a severe concussion of the brain, recovery.

DR. S. D. RISLEY recalled the history of a case presented to the section last year in which a man had been thrown from a buggy, remaining unconscious for two days. Three months later there was almost complete paralysis of all ocular muscles on the right side supplied by the third nerve except the levator. He presented the history of two cases which properly belong to the first group.

DR. B. ALEXANDER RANDALL referred to a case of paralysis of inferior rectus, decreasing when he first saw the man, in which complete recovery followed absorptive treatment.

Chicago Academy of Medicine.

October 12, 1900.

IS THE AMERICAN TO BECOME A DEGENERATE INDIAN?

DR. JAMES G. KIERNAN read this paper.

Under the influence of the notion of zoologic districts the opinion that the English-speaking American of Caucasian lineage was to become an Indian, was advanced by Pruner-Bey and Quatrefages four decades ago. After two generations of residence in North America the glandular system of the English-speaking race of Caucasian type was reduced to the minimum of its normal development. The skin became like leather; the color of the cheeks was replaced by sallowness. The head became smaller, rounder, and covered with stiff dark hair, the neck became longer, and greater development of the cheek-bones and the masseters occurred. The temporal fossæ grew deeper, the jaw bones more massive, and the eyes lay in deep approximated sockets. The iris became dark, the glance piercing and wild. The long bones, especially in the superior extremities, were lengthened, so that the gloves manufactured in England and France for the American market were of a particular make with very long fingers. The male pelvis approached that of the female. America, in the opinion of De Quatrefages, has thus from the English race produced a new white race which might be called the Yankee race. One of the data on which Pruney-Bey based his opinion was successfully overthrown by the American anthropologist, Morton, who showed that there had been no diminution in the size of the head. This question can be answered logically only by the application of the principle that in science a theory to be exploited must not only explain all the facts, but must exclude every other explanation. The first point involved is that of the influence of American continental environment on the races constituting the Indians. According to Keane, American aborigines are not indigenous. The racial elements of the American aborigines appear to be proto-Europeans of the first stone age—a somewhat generalized primitive Caucasian type—and proto-Asiatics—a somewhat generalized primitive Mongolo-American type—both European and Asiatic still preserving many common features of the common pleistocene precursors. The study of American aborigines points to two streams of immigrants from the Old World. The Eskimo-Botocudo section has been traced to the long-headed paleolithic man of Europe, which continental geology has shown to have been connected with North America through the Faroe Islands, Iceland and Greenland, down to post-glacial times. The other section, which probably greatly outnumbered the first, came apparently later, during the new stone age, from Eastern Asia by the Behring waters, and is now represented by the still prevalent round-headed element.

The author then discusses the basis for the Indian transformation hypothesis, saying that the influence of the transformation factor, although the term "degenerate" be applied to it, is not intended to imply a morbid element tending to race extinction. A change from one species into another, whether in animals, plants, or in individuals, or their tissues, can not take place without anomaly. When the balance of the struggle for existence becomes disturbed, the degenerative organs gain at the expense of the organism. Sometimes this goes so far that new organs are formed. Any variation to be transmitted must pass through periods of embryonic, as well as periods of post-uterine, stress. In passing through these periods it has to resist the influence not merely of atavism, but of the maternal

environment. The individual cell is by no means a slave to heredity. It is capable of certain modifications under the influence of certain external conditions. If the environment of the mother be favorable to the variation, it is apt to pass through the periods of intra- and extra-uterine stress unmodified. If, on the other hand, the environment be unfavorable, the reverse is likely to obtain. It is not the variation per se that may prove malign, but the influence which surrounds it. Race characters may be evolved which, considered apart from the general organism, are an expression of advance. Considered as a face for physical and not esthetic purposes, the Caucasian face is a degeneration. The negro and the Mongolian types approximate more nearly the vertebric type, and least the embryonic type. The progress of development of the face in the vertebrates is checked in man, because the upright position renders it unnecessary to bend the head as in quadrupeds, and because the enormous cerebral development has rendered an enlargement of the brain cavity necessary.

There are factors tending to produce and maintain American race types of features. Races coming from the Old World have Mongolian elements which could be awakened by the Mongolian environment if present in the Americans. The early generations of Europeans in North America, whether these be the English Puritans, the Dutch New Yorkers, the Irish Marylanders, the English Virginians, the Pennsylvania Germans, and the mixed races of Scotch-Irish, French and German descent of the Carolinas, Georgia and Alabama, admittedly exhibit facial resemblances to the so-called Indian type. However, when the conditions of stress to which these people have been exposed began to disappear, this element vanishes. This is excellently illustrated in the family of the discoverer of the electric telegraph.

The question arises, Does the alleged tranformation of the European into an Indian comply with the scientific requirements of a working hypothesis? It certainly fails in the requirement of explaining facts. The Indians still sometimes retain characteristics assimilating them to the Europeans. This proves that European characters can resist the influence of American environment even when such characters occur in a generalized, and hence plastic type. The theory does not exclude the influence of Mongolian admixture present to a large extent in all Europeans, even the English-speaking peoples. This would explain the seeming assumption of Indian race characters, since under similar conditions in Europe race characters occur simulating those of the American Indian. The theory, therefore, does not comply with the scientific rule and can not be accepted.

PROF. FREDERICK W. STARR, of the University of Chicago, objected to the general use of the term American. When Dr. Kiernan said American he probably meant only the people of this country and the Americans of Canada, and not the Mexicans, the people of Central and South America, nor the Eskimo. The American Indian, if the result of his environment, is certainly not a degenerate because he has lived in America. He is better adapted to his environment than we are.

A parasite is not a degenerate, because it is better adapted for its peculiar mode of life, but the speaker would not think of comparing the American Indian with the parasite. Indians have better sense than to keep degenerates alive. They have no institutions in which to preserve their degenerates. The type is pure throughout, and well represented in the different individuals of a tribe. The two elements mentioned by Keane are doubtless present in the Indian population. There is undoubtedly Chinese and Japanese blood in the American Indian. The American Indians come from more than two sources. They have sprung from many different original types, and at many different times when the connection with Asia was easier than at the present day, when islands were existing in the Pacific that have now disappeared, when men of different color and types found their way into America, and here they have been converging. There are 58 different language stocks represented in North America. Customs, habits and religions differ as much as language, and when these different customs are compared they coincide with different areas as mapped out on the basis of languages.

Throw a population into America, and only those whose physical type best fits them to live here will survive. In the course of time there will result a type adapted to their surroundings, a state of affairs which was found here by the white men from Europe, and one which will be found thousands of years hence when the Chinese investigators go over the world to study what is to be found in different continents.

Three cartoons are used extensively in the papers and especially during times of war. One is called Uncle Sam, or Brother Jonathan, the Yankee. He is portrayed as being slender, angular; has broad prominent cheek-bones, straight hair and a tapering face. A perfectly well-defined type. Everybody knows Uncle Sam. The second type is the F. F. V., "first families of Virginia." He is depicted as being slender, not as angular as the Yankee; he is lithe, sallow, olive complexioned, with straight black hair and dark eyes. The third type is John Bull, round, juicy, oily, with a red countenance and with curly grayish hair. A perfectly well-defined type, and yet, all three are pure English. What is the difference between them? John Bull stayed at home, whereas the other two came to America and have been living here for several hundred years. Consequently they have undergone a change; they are not the same. There is a difference between the two immigrants just as there is a difference between the Indian from Virginia and the Indian from the North. The expected was the result of natural selection, which always tends to produce a type adapted to its surroundings. We never get rid of the old types entirely. Many years hence there will be physical differences between the man from England and Russia, although they will converge and there will be a homogeneous population such as the white man found when he came to this country. There will be local differences, which are partly due to surroundings and partly to the original type, but there will be a convergence, a blending of all into one type. The Indians are all Indians, although there are sub-types in the shape of different tribes.

DR. EUGENE S. TALBOT agreed with Professor Starr that environment has much to do with the type, but conditions must be taken into consideration. There are two extremes, the brachycephalic and the dolichocephalic in this country among the Indians and all races of people. There is a tendency, however, not only in Europe but in this country, to the mesocephalic type and with that change appear the degenerate faces, the jaws becoming smaller. Dr. Talbot does not believe that the white races of America are becoming of the Indian type. The Indian type has large jaws, prominent cheek bones, and perfect teeth, while the mixture of races and the soil and climate are changing Europeans in this country to a race with small jaws, with small teeth and small cheek bones. That the change is taking place, Dr. Talbot showed by a series of photographs of four generations. The first picture showed a dolichocephalic head, which gradually changed until in the fourth picture it became the brachycephalic. The change in the jaws is also plainly seen until there occurs arrest of development of the jaws, the sunken face, with cheek bones not so prominent. The bones of the nose are also reduced. The changes taking place in this country are not conducive to a return to the Indian type so far as the jaws, face and teeth are concerned. The North American Indians do not have decayed teeth to any great extent, where in the American there is a degenerated tooth structure. This degenerate condition will continue in the evolution of the face of the white people.

DR. STARR did not see the connection between these pictures and the argument in question. According to Dr. Talbot, there is a degeneration going on from one generation to another. This degeneration is found only in degenerating families, in people of high respectability and genius, in people who have portraits of the family running through generations. Those pictures teach the lesson that the families they represent are going to die out because they are not adapted to the climate. They are not the people who are going to be the future population of the country; it is the people without portraits; people who are not making inventions; people who are not attracting attention, who are going to survive.

Therapeutics.

TONSILLITIS.

The harmful influence of micro-organisms which constantly inhabit the throat may be successfully combated by a perfectly healthy condition of the body, the resisting power of which may be temporarily lowered by undue exposure to cold and thus permit these germs to carry on their work and multiply. A derangement of the gastrointestinal canal is a frequent forerunner of disease of the throat.

Rheumatism seems to figure as an etiological factor in tonsillitis.

Three principal forms of tonsillitis have been described by the authorities:

1. The catarrhal form, in which the mucous membrane only is involved and which may extend to the pharynx, producing there also a general catarrhal condition.

2. The follicular form or lacunar tonsillitis, when the follicles are involved and are filled with a cheesy substance.

3. A suppurative or phlegmonous tonsillitis—quinsy.

The acute catarrhal form, although occurring as a primary disease, seldom occurs alone, but is usually associated with acute pharyngitis. Below are given some suggestions as to treatment of the different forms:

Acute Tonsillitis.

R.	Sodii salicylatis		
	Potassii citratis, āā ..... gr. xl	2	66
	Syr. pruni virginianæ ..... ℥iiss	10	
	Aquæ q. s. ad ..... ℥ii	64	

M. Sig. One dessert-spoonful every three or four hours, for a child of 5 or 6 years. —Ashby.

FOR LOCAL APPLICATION.

As a local application the following may be found of service in such cases:

R.	Iodi ..... gr. iii		2
	Potassii iodidi ..... ℥i	4	
	Glycerini q. s. ad ..... ℥i	32	

M. Sig. Apply locally to the tonsils three times a day by means of a brush or cotton swab.

AT COMMENCEMENT OF ATTACK.

R.	Tinct. ferri perchloridi ..... ℥i	4	
	Glycerini ..... ℥ii	64	

M. Sig. One teaspoonful every two hours

Iron given as in the above form without the addition of water is by some authors regarded as a specific in treatment of tonsillitis; believing that it relieves the pain, shortens the duration and lessens the congestion, as it has a local as well as a systemic effect.

GARGLE IN ACUTE TONSILLITIS.

R.	Tinct. belladonnæ ..... ℥ss	2	
	Glycerini ..... ℥iiss	10	
	Decoct. althææ q. s. ad ..... ℥vi	192	

M. Sig. Use as a gargle two or three times daily. —Schnitzler.

R.	Tinct. aconiti ..... m. viii		5
	Syrupi aurantii ..... ℥iii	12	
	Aquæ destil., q. s. ad ..... ℥ii	64	

M. Sig. One teaspoonful every two hours for a child of 4.

TONSILLITIS WITH RHEUMATIC HISTORY.

R.	Sodii salicylatis ..... ℥ii	8	
	Tinct. cinnamomi ..... m. v		33
	Aq. destil q. s. ad ..... ℥iii	96	

M. Sig. One teaspoonful in water every two or three hours for a child of 10 years or older.

R.	Pulv. opii deodor ..... gr. ii		12
	Tinct. veratri viridis ..... m. viii		5
	Hydrarg. chloridi mitis ..... gr. ii		12
	Ol. anisi ..... m. i		06
	Sacch. lactis, q. s.		

M. Ft. capsulæ No. xx. Sig. One every hour for adults. —Newcomb: *Med. Record.*

Acute Follicular Tonsillitis.

This is the most frequent form, and especially involves the crypts, and, by extension, the whole tonsil.

R.	Sodii boratis ..... ℥ii	8	
	Sodii bromidi ..... ℥i	4	
	Acidi carbolici ..... m. xx	1	33
	Glycerini ..... ℥iv	16	
	Aquæ destil., q. s. ad ..... ℥iv	128	

M. Sig. Use as a gargle four or five times a day.

Dr. E. Fletcher Ingals applies the following to cut short the attack:

R.	Guaiacol		
	Ol. amygdalæ exp. āā ..... ℥ii	8	

M. Sig. Apply to the inflamed tonsil with a cotton swab once or twice daily.

This should always be applied with a swab and applied quickly, as it is very penetrating, and causes some pain when it first touches the tonsil, which in a short time ceases, as the guaiacol is a local anesthetic. This application also reduces the temperature.

R.	Sodii bromidi ..... gr. lxxx	5	33
	Sodii salicylatis		
	Tinct. opii deodor., āā ..... ℥i	4	
	Cascaræ cordial q. s. ad ..... ℥i	32	

M. Sig. One teaspoonful every four hours in water. —E. F. Ingals.

SALOL.

Salol is a favorite remedy with a great many practitioners, and is usually given in rather large doses to children, watching carefully the condition of the urine during its administration. istration.

R.	Salol ..... ℥i	4	

M. Ft. chartulæ No. xv. Sig. One powder every four hours for a child of 6 years or older.

R.	Sodii salicylatis ..... ℥i	4	
	Sodii phosphatis,		
	Sodii bicarb. āā ..... ℥iss	6	
	Aq. menth. pip ..... ℥iii	96	

M. Sig. One tablespoonful every four hours.

R.	Sodii salicylatis ..... ℥iss	6	
	Sodii iodidi ..... ℥ss	2	
	Tinct. aconiti ..... gtt. x		66
	Syrupi aurantii q. s. ad ..... ℥iii	96	

M. Sig. Shake. One teaspoonful every four hours for a child.

R.	Argenti nitratis ..... gr. lx	4	
	Aquæ destil., q. s. ad ..... ℥i	32	

M. Sig. Brush the tonsils quickly by means of a cotton swab.

OF USE IN CUTTING SHORT THE ATTACK.

Formalin is a remedy that will probably be used more with better acquaintance with its physiological action.

R.	Formalin ..... m. xvi	1	
	Tinct. ferri chloridi ..... ℥i	4	
	Aquæ menthæ pip ..... ℥iv	128	

M. Sig. Use as a spray every two hours in the beginning of acute form

R.	Aluminis,		
	Acidi tannici. āā ..... gr. xxv	1	5
	Aquæ q. s. ad ..... ℥iv	128	

M. Sig. Use as a gargle.

R.	Tinct. ferri chloridi,		
	Potassii chloratis āā ..... gr. lx	4	
	Glycerini ..... ℥i	32	
	Aquæ destil. ..... ℥i	32	

M. Sig. Use as a gargle every hour.

The following prescriptions are taken from Keating's work on "Diseases of Children." He states that it is always advisable to keep the bowel slightly relaxed at least for a day or two, and prescribes the following, adding magnesium sulphate to meet that indication:

℞ Magnesii sulphatis ..... ℥iii 12
Quininæ sulphatis ..... gr. vi 36
Acidi sulph. dil ..... gtt. xx 1 33
Syr. zingiberis ..... ℥ss 16
Aquæ q. s. ad ..... ℥iii 96

M. Sig. One dessertspoonful every three hours for a child 3 or 4 years of age.

FOR LOCAL APPLICATION.

℞ Tinct. ferri chloridi ..... ℥ii 8
Glycerini ..... ℥ii 64

M. Sig. Apply locally with a swab every two or three hours.

AS A SPRAY, OR GARGLE.

℞ Thymol ..... gtt. ii 12
Acidi carbol. ..... m. xxx 2
Sodii boratis ..... ℥iss 6
Glycerini ..... ℥vi 24
Aquæ destil., q. s. ad ..... ℥vi 192

M. Sig. Use as a spray or gargle two or three times daily.

AS A TONIC DURING CONVALESCENCE.

℞ Quininæ bisulphatis ..... gr. xx 1 33
Tinct. ferri chloridi ..... ℥i 4
Syrupi zingiberis ..... ℥i 32
Aquæ destil., q. s. ad ..... ℥iii 96

M. Sig. One dessertspoonful before each meal three times a day, to be taken through a glass tube. —Keating.

FOLLICULAR AMYGDALITIS.

℞ Creosoti—beechwood ..... m. viii 5
Tinct. myrrhæ,
Glycerini, āā ..... ℥ii 64
Aquæ destil. ..... ℥iv 128

M. Sig. Use as a gargle every hour.

CARBOLIC INJECTIONS IN SCARLATINAL AMYGDALITIS.

H. Judson Liper reports the successful employment of Heubner's treatment. By means of a long bent needle, from two to four drops of a 1 in 40 solution of carbolic acid are injected into two or three different spots in the tonsil. Liper has used this method even in suckling infants.

℞ Acidi carbolici—crystals,
Aquæ destil., q. s. ad ..... ℥i 32

M. Sig. Inject from two to four drops into the tonsil.
—*N. Y. Med. Jour.*

LOCAL ANTISEPTIC.

The infectious nature of tonsillitis and other forms of throat troubles should lead to trying antiseptic methods instead of astringents. The following combination is recommended as a local antiseptic:

℞ Acidi carbol—crystals,
Camphoræ, āā ..... gr. xv 1
Glycerini,
Aquæ destil, āā ..... ℥ii 64

M. Sig. Paint this on the inflamed parts three times a day. It will be found to have a mechanical action as well as an antiseptic one. —*Archives of Pediatrics.*

Phlegmonous Tonsillitis—Quinsy.

If quinsy can be diagnosed sufficiently early the attack may sometimes be aborted and, in the opinion of Dr. Holt, when it occurs in children, salol is the best remedy. It should be given in doses of two grains every two hours to a child of 5 years, and be assisted by the local effect of very hot or cold applications, according to the sensation to the patient.

AN OLD, BUT RESPECTED REMEDY.

℞ Tinct. guaiaci ammoniati ..... ℥i 32
Sig. One teaspoonful in milk taken into the mouth as a gargle and then swallowed. Repeat every two hours until it begins to purge—for adults.

℞ Acidi salicylici ..... ℥ii 8
Sodii bicarb. ..... ℥iss 6
Glycerini ..... ℥i 32
Aquæ menthæ piperitæ q. s. ad ..... ℥iv 128

M. Sig. One tablespoonful every two or three hours.

TO ALLEVIATE PAIN.

To allay the pain cocain can be applied under the direction of the physician.

℞ Cocainæ hydrochloratis ..... gr. xx 1 33
Aquæ destil., q. s. ad ..... ℥i 32

M. Sig. Apply locally by means of a swab or spray to relieve the pain.

℞ Potassii chloratis ..... ℥ii 8
Zinci sulphatis ..... gr. x 66
Tinct myrrhæ ..... ℥i 4
Syrupi simplicis ..... ℥i 32
Aquæ destil. ..... ℥iv 128

M. Sig. Use as a gargle three times daily.

℞ Tinct. veratri viridis ..... m. xxx 2
Morphinæ sulphatis ..... gr. i 06
Aquæ ..... ℥ii 64

M. Sig. One teaspoonful repeated in one hour, then every three hours for an adult. —*New Eng. Med. Month.*

AS A GARGLE.

℞ Acidi carbolici ..... ℥i 4
Glycerini ..... ℥iii 96
Tinct. iodi ..... ℥iv 128
Aquæ, q. s. ad ..... Oi 512

M. Sig. Use as a gargle in phlegmonous tonsillitis.
—Buchanan.

℞ Potassii chloratis ..... ℥ii 8
Potassii nitratis ..... ℥iv 16

M. Sig. One teaspoonful dissolved in a half glass of hot water as a gargle every two hours.

As soon as fluctuation is detected, an incision should be made with a guarded bistoury. After the incision the following gargle may be used:

℞ Sodii salicylatis,
Sodii boratis, āā ..... gr. xl 2 66
Syrupi simplicis ..... ℥i 32
Aquæ destil., q. s. ad ..... ℥viii 256

M. Sig. Use as a gargle.

In tonsillitis, where the temperature ranges high the child should be kept in bed and cold compresses applied to the throat and sponge baths given to quiet the patient and reduce the temperature. The diet should be guarded, consisting in the main of liquid—milk, soft-boiled or raw eggs, gruels, soups, custards, etc. The patient may hold small pieces of cracked ice in the mouth, which relieves both the thirst and the pain.

Medicolegal.

Local Health Officers Represent the State.—It is apparently the established rule, the Supreme Court of Michigan says, in the case of Murray vs. the Village of Grass Lake, that local health officers acting under a general statute of the state conferring their powers are not performing corporate functions, but are represented in the state, and that the municipality is not liable for the acts of such boards, either of misfeasance or nonfeasance.

Future Medical Attendance Subject for Experts.—In the case of Martin vs. the Southern Pacific Company, an action brought by a husband to recover damages for injuries to his wife, one of the physicians who had attended upon the wife, while testifying, was asked as to the character of the medical attendance which she would require in the future. This question was objected to on the ground that it was seeking to

substitute the opinion of the witness for the conclusion which should be made by the jury. But the testimony, the Supreme Court of California holds, was properly admitted. The character of the injuries sustained by the wife, as well as their probable duration, and the professional care required for their alleviation, it holds, were proper subjects for the opinion of experts. The husband was entitled to recover for whatever damage could be shown as certain to result in the future, and the testimony of the physicians who had attended upon his wife, the court declares, was a proper mode of establishing this fact.

Barring Membership in Any Other Sick Benefit Society.—In the case of Bretzlaff vs. the Evangelical Lutheran St. John Sick Benefit Society, the Supreme Court of Michigan holds that it cannot be said that the limitation in the constitution of this society that members "must not belong to any secret society or any other sick benefit society" was unreasonable or against public policy. The society, it says, was organized among the members of a particular church. Its members might be called upon to visit and care for the sick, and to use part of the income of the society in their care. If a member might join one other sick benefit association, he might join so many of them that he might not be able to perform the duties he owed to this association. Hence, the court does not think it unreasonable or against public policy to make such a provision as this in the constitution of such an association. Moreover, a person who helped to organize this society and signed an application blank containing a declaration that he had read the constitution and by-laws and was willing to submit himself to the same, the court holds, must be deemed to have known this provision, and was bound by it, and his contract with the society was rendered void by his being a member of another mutual benefit association at the time of the organization of this one and remaining such until his death, without the knowledge of that fact by the officers of this society.

Enforces Contract Not to Practice Medicine in Town.—The Supreme Court of Michigan affirms, in the case of Lemon vs. Randall, a decree restraining a physician from continuing his practice of medicine in a town after he signed an agreement for a valuable consideration, not to practice his profession there. The agreement referred to was dated at that place, and stated that, for value received, he thereby sold and turned over, on and after the first of the following month, to the physician whom he named, his good will in the practice of medicine in that town and vicinity, and agreed to use his influence to introduce him to his patrons, and secure for him their patronage and influence, and that he would not re-enter into or engage in the practice of medicine there after such date, without a written agreement with said other physician. The defense relied upon was that this agreement did not embody the whole agreement between the parties, and that contemporaneously with the making of this agreement the other physician entered into certain engagements relative to purchasing a house, which, it was alleged, he failed to keep. However, the court calls attention to the fact that the other physician refused to sign a written memorandum binding him to make such purchase, and it says that it thinks it doubtful whether the physician who signed the agreement first mentioned understood the promise of the other as creating any obligation other than a moral one. But, assuming that he understood that there was a binding agreement to purchase the house, the supreme court holds that it was void under the statute of frauds, requiring some memorandum of an agreement to purchase real estate to be made in writing and signed, and, hence, that it could not be used as a defense here.

Osteopaths Practice Medicine.—The judgment of the District Court of Lancaster County, appealed from in the case of Little vs. State, wherein a practitioner of osteopathy was convicted of practicing medicine without a license, was affirmed, November 21, by the Supreme Court of Nebraska. The practice of osteopathy was described as consisting principally in rubbing, pulling and kneading with the hands and fingers certain portions of the bodies and flexing and manipulating the limbs of those afflicted with disease, the object of such treatment being to remove the cause, or causes of trouble. This, it was urged did not make the practitioner a practitioner of medicine within the meaning of the statute defining the latter as any person "who shall operate or profess to heal or prescribe for or otherwise treat any physical or mental ailment of another." The supreme court, however, is of the opinion that those who practice osteopathy for compensation come within the purview of the statute as clearly as those who practice what is known as "Christian science," and that, therefore, this case falls within the principle of State vs. Buswell, which it decided in 1894; 40 Neb. 158. It then held that the act to establish a state board of health; to regulate the practice of medicine in Nebraska, etc., is as much directed against any unauthorized person who shall operate on, profess to heal, or prescribe for, or otherwise treat any physical or mental ailment of another, as against one who practices "medicine, surgery, and obstetrics," as those terms are usually and generally understood. And it now declares that with the rule announced in that case it is fully satisfied, although it is possible that the decisions of some other courts are in conflict with it. The doctrine declared in that case, it goes on to say, will carry out the legislative intent and effect the object of the statute, which is "to protect the afflicted from the pretentions of the ignorant and avaricious," no matter whether the person pretending to heal bodily or mental ailments does or does not profess to "follow beaten paths and established usages." In construing statutes effect should be given to the intention of the legislature. But, it was argued that osteopaths do not profess to treat any physical or mental ailment, that they merely seek to remove the cause of such ailment or disease, and, therefore, do not come within the definition mentioned. The answer to that is that it is apprehended that all physicians have the same object in view, namely the restoring of the patient to sound bodily or mental condition, and whether they profess to attack the malady or its cause, they are *treating* the ailment as the word is popularly understood. Wherefore, the court says that it can see no good reason why the practice of osteopathy does not fall within the provisions of the statutes under which this prosecution was instituted, as clearly so as do ordinary practitioners, or those who profess to heal by what is known as Christian science. Nor does it consider that the offense is without a penalty under the Nebraska statutes. It holds that one who practices what is known as osteopathy, without obtaining a certificate from the State Board of Health, is a practitioner of medicine as defined by article 1, chapter 55, Compiled Statutes, and is liable to the penalty prescribed specifically for practicing medicine without a license. It further holds that "surgery and obstetrics," as those terms are popularly understood, are embraced in the title of an act to regulate the practice of medicine, and hence that the act in question is not invalid on the ground that the definition of a practitioner of medicine contained therein and quoted above, is broader than the title of the act, which is "to regulate the practice of medicine." Then, it holds that the act is not void as being prohibitive in its effect, its attempt being to regulate the practice of the art of healing and it being prohibitive only as to those who have not been duly licensed by the State Board of Health to practice the art of healing. Last of all, it holds that several misdemeanors of the same kind, as for example charging violations of such a statute, may be set forth in as many counts of an information, and the prosecutor is not required to elect upon which count he will proceed.

New Instrument.

Apparatus, With Non-Perishable Valves, for Administration of Nitrous Oxid and Ether, Separately or in Combination, Without Change of Inhalers.

S. ORMOND GOLDAN, M.D.
NEW YORK CITY.

The essential part of the gas apparatus is a stop-cock containing two valves. The inspiratory valve is set in an inner

cylindrical tube, which works by a handle through a right-angled slit in an external cylinder supporting the expiratory valve superiorly, and inferiorly gives attachment to the gas bag. The valves themselves are made of thin sheet hard rubber, and are therefore non-shrinkable and stand all climates. When the handle is turned down to point indicated by "air," Fig. 1, the gas bag is closed by means of the obturating function of the inner tube; when the handle is turned upward, to place indicated by "gas," Fig. 2, air is excluded and gas is inhaled by means of the inspiratory valve. Expirations of the patient pass out through the expiratory valve; at the same time the inspiratory valve is closed. During inspiration the inspiratory valve is opened at the same time the expiratory valve is closed, preventing inhalation of air, and conversely during expiration the inspiratory valve is closed, avoiding waste of gas.

When the handle is pushed backward, to place indicated by "no valves," Fig. 3, the valves are thrown out of action; the patient then breathes back and forth into the gas bag. This three-way action of the stop-cock is a feature not represented in any of the dental gas-inhalers of American manufacture, and is one of the important factors conducing to very

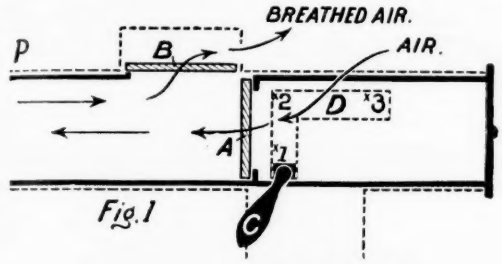

Fig. 1

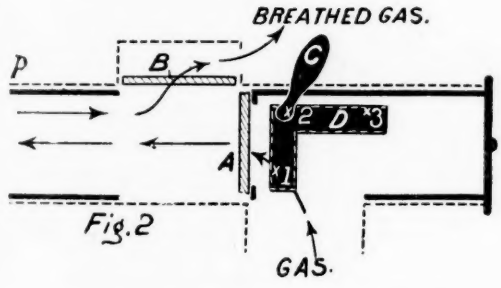

Fig. 2

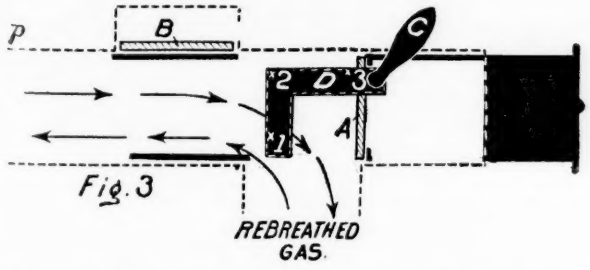

Fig. 3

rapid anesthesia by ether, when preceded by gas, to be presently described.

One hand only is necessary in manipulating this stop-cock. By raising or lowering the handle by means of the thumb, gas or air may be admitted at will. The gas bag is made of black sheet-rubber, of about 2½ gallons capacity. The face piece is made of small, medium and large sizes, suited to either children's or adults' faces, and of different patterns to suit the individual taste of the administrator. Fig. 1 shows the metal pattern; in Fig. 2 the body is made of celluloid; Fig. 3 is made of leather entirely covered by rubber; all have the inflatable pneumatic rim. The second and third variety fit the face more closely than the metal pattern; all of them can be thoroughly sterilized.

When gas alone is employed, the apparatus should always be tested before using, and the gas bag thoroughly collapsed before being filled with gas. The inhaler is closely applied, all air excluded about the edges of face-piece, and the patient is permitted to breathe air first; the handle is then pushed upward, inhalation of gas begins, and is complete in time varying from thirty seconds to one minute. Is evidenced by stertor, cyanosis, dilatation of pupils, and hard full pulse[1]. The handle should now be depressed and air admitted, when cyanosis, stertor, etc., cease, and consciousness quickly returns, but before it is complete the gas should again be admitted. In this way gas anesthesia may be maintained indefinitely.

The gas and ether apparatus consists of, in addition to the above, an ether chamber, which is interposed between the face piece and the stop cock, Fig. 2. This is made after Clov-

FIGURE 1.

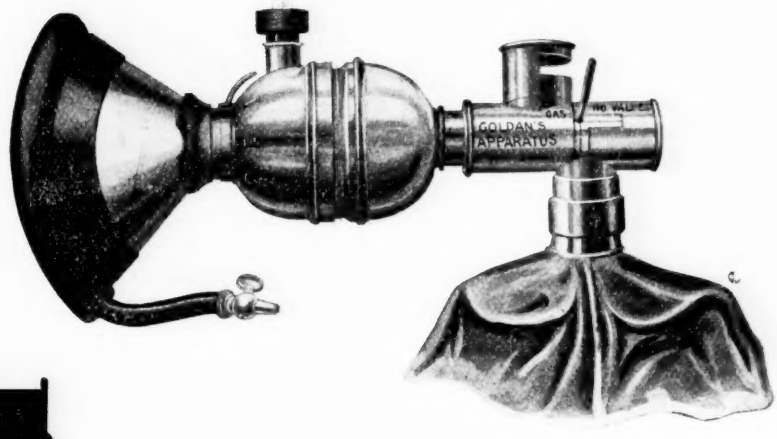

FIGURE 2.

er's principle. Instead of revolving around the central axis, technically called the whistle, the chamber itself is stationary and the handle revolves the central part. The chamber itself is about one-third the regular size, and holds 1½ ounces of fluid ether, which is poured in through the hollow glass-topped stopper: by this means it can be ascertained when more ether is required, by permitting the ether to run into the stopper by elevating the chamber. Another feature about this chamber is, it can be separated at the middle and the interior cleaned, and if preferred, a strand of gauze inserted as a receptacle for holding the ether. A varying quantity of ether is supplied, by turning the handle from 0 to 4, and it can be turned on at any time during gas anesthesia.

When gas and ether are to be administered, the parts should be adjusted as in Fig. 2, the handle turned to "air" on stop-cock and to 0 on ether chamber. The gas bag need be only moderately filled with gas. After the patient is partially anesthetized by gas, the ether should not be at once turned on, but the valves of stop-cock thrown back out of action, that the patient may breathe back and forth into the gas bag three or four times, then ether is turned on gradually. A very little air may be admitted; in this way deep etherization

1. N. Y. Med. Jour., July 29 and Aug. 5, 1899; April 28 and May 5, 1900.

very quickly (two to four minutes) follows that of gas anesthesia, with no cyanosis or stertor. After etherization is complete, the right-angled arm and ether bag may be adjusted.

For the administration of ether alone, the parts should be adjusted as in Fig. 3. Note that the right-angled arm giving attachment to the thin rubber bag, has an air-shutter. By this means air may be admitted without detaching the arm. The ether bag is of fullest respiratory capacity. Turning the handle to 0 the patient should be encouraged to breathe fully and deeply; all air passages should be fully opened; the patient now breathes only air. Ether is then very gradually turned on; at the same time the air passages are gradually closed, so that by the time all air is excluded, the patient is breathing full ether, and very quickly becomes surgically anesthetized. Air must, of course, be admitted from time to time, whenever required, and the ether chamber replenished when necessary.

The apparatus is not only the lightest and most portable of any valved device for gas-ether anesthetization at present obtainable; it is also the most inexpensive, at the same time combining the two great features of any instrument; efficacy and simplicity.

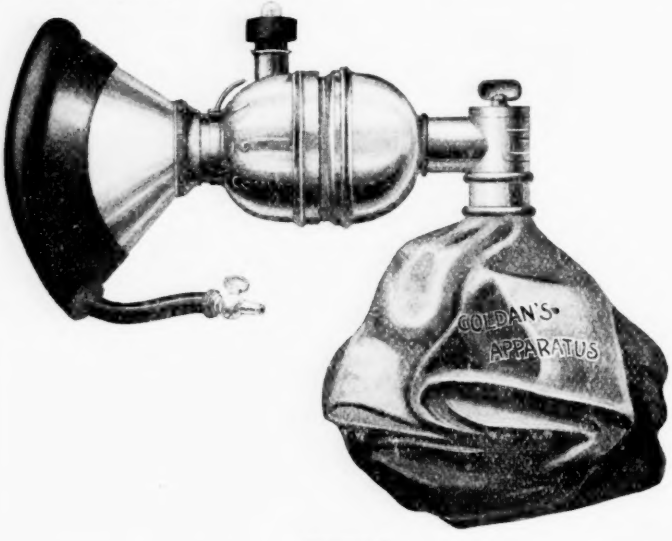

FIGURE 3.

Explanation of the Diagrams.—Dotted lines indicate external part of stop-cock, heavy lines and shaded parts, internal tube. Arrows indicate direction of inspiration and expiration. The valves are indicated by shaded lines. A. Inspiratory valve. B. Expiratory valve. C. Index handle. D. Right-angled slit. P. Proximal end of stop-cock, attaching face-piece. X. Handle turned down; air breathed. X 2. Handle turned up; gas breathed. X 3. Handle turned up and back; gas breathed back and forth into gas bag.

The apparatus may be obtained from the manufacturers, Claudius Ash & Sons, London, England, or 30 East Fourteenth Street, New York City.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), December 1.

1 *Pernicious Anemia and Its Relation to Inheritance. Charles L. Dana.
2 *Gastroptosis. George R. Lockwood.
3 *On the Analogy between the Nervous Conductibility and the Electric Conductibility, and Their Relation to the Functional Neuroses. A. D. Rockwell.
4 *The Treatment of Typhoid Fever at the New York Hospital. Frederick L. Keays.
5 *A Few Remarks Relative to Typhoid Feeding. William M. Brown.
6 *The Registration of Tuberculosis. Hermann M. Biggs.

Philadelphia Medical Journal, December 1.

7 On the Study of Tuberculosis. William Osler.
8 *Where the Danger Lies in Tuberculosis. Adelaide Dutcher.
9 *The Early Diagnosis of Pulmonary Tuberculosis. DeLancey Rochester.
10 Some Observations on the Occurrence, Early Diagnosis and Treatment of Incipient Pulmonary Tuberculosis in Dispensary Practice. Henry L. Shively.
11 *Sanatorium Treatment and Its Relation to Climate. S. Edwin Solly.
12 A Case of Acute Tuberculosis of the Mesenteric Glands of the Ileocecal Coil; Removal; Permanent Recovery. Maurice H. Richardson.
13 Personal Views Regarding the Climate of the Rocky Mountains in the Treatment of Tuberculosis. S. D. Van Meter.
14 *On the Treatment of Tuberculosis by Sodium Cinnamate. Alfred Mann.
15 *Stomach-Conditions in Early Tuberculosis. Boardman Reed.
16 The Fallacy of Climate in the Treatment of Tuberculosis. J. W. Kime.
17 Operation in Two Cases of Tuberculous Peritonitis. W. L. Grant.
18 Lupus Vulgaris of Fifteen Years' Standing Successfully Treated and Cured by Exposure to X-Ray. A. Everett Smith.
19 *The Diseases of the Bronchial Glands. J. N. Hall.
20 Colorado Climate: A Comparative Study. Edwin G. Dexter.
21 Public Education and the Prevention of Disease. H. L. Johnson.

New York Medical Journal, December 1.

22 *Practical Medicine and Laboratory Research. Beverly Robinson.
23 Report of a Case of Empyema of the Antrum of Highmore of Fifteen Years' Duration. Due to a Foreign Body; Operation; Recovery. Arthur B. Duel.
24 Heroin as an Analgesic. Normann P. Geis.
25 A Case of Multiple Aneurysms. W. J. Pettus.
26 The Treatment of Various Long-Standing Sexual and Urinary Symptoms in the Male. Follen Cabot.
27 A Contribution to the Therapeutics of Phlegmasia Alba Dolens. A. Herzfeld.
28 *Revelations of the Proctoscope in Health and Disease. A. B. Cooke.
29 A Dissection of Some Antitoxin Statistics. J. Edward Herman.
30 Cessation of Respiration During Chloroform Anesthesia Due to Chewing-Gum in the Larynx. E. P. Palmer.

Boston Medical and Surgical Journal, November 29.

31 *Acute Hemorrhagic Pancreatitis, Its Surgical Treatment, With Report of Six Cases. F. B. Lund.
32 *Observations Upon the Symptoms and Treatment of Hyperacidity of the Stomach. Henry F. Hewes.
33 *Subperiosteal Fractures. Frederick J. Cotton.
34 *Irritable Breasts or Chronic Lobular Mastitis. R. C. Cabot.
35 Cyst of the Vocal Cord. J. Pyson Clark.

Medical News (N. Y.), December 1.

36 *When Shall We Operate in Appendicitis? Frank E. Bunts.
37 A Medical View of the Treatment of the Cecum and Appendix. A. L. Benedict.
38 Therapeutic Studies of Heroin Hydrochlorid. Benno Hyams.
39 *A New Operation for Hemorrhoids. Ellsworth Eliot, Jr.
40 *A Plea for the Earlier Recognition of Squint in Children by the Family Physician and the Earlier Application of the Methods of Treatment. C. A. Veasey.
41 The Treatment of Pneumonia With Antipneumonia Serum. Edwin Rosenthal
42 Septic Synovitis of Knee-Joint: Extensive Drainage Followed by Excision of Entire Synovial Membrane; Recovery. Charles A. Powers.
43 The Influence of Measles and Erysipelas Upon Epilepsy, With Report of Cases. L. Pierce Clark and E. A. Sharp.

Cincinnati Lancet-Clinic, December 1.

44 The Physical Basis of Mind. Brooks F. Beebe.
45 Cancer of the Rectum. George J. Monroe.

Medical Age (Detroit), November.

46 Specific Ureteritis. W. A. Hackett.
47 The Pathology and Treatment of Anemia. W. N. Sherman.
48 Death from Embolus in Forty-five Minutes, With Autopsy. Byron Robinson.
49 Symptomatology and Treatment of Exophthalmic Goiter. Carl W. Rummel.

Pediatrics (N. Y.), November 15.

50 Facial Diplegia Following Middle Ear Disease. Luther C. Peter.
51 *Carbonic Acid Gas Per Rectum in Pertussis. C. Leonard Kerr.
52 The Treatment of Scarlatinal Nephritis. (Continued.) Robert C. Kemp.

Toledo Medical and Surgical Reporter, December.

53 Asthma. John North.
54 Post-Partum Hemorrhage. J. C. Reinhart.
55 Operations in Private Dwellings. A. F. McVety.
56 Pleasant Medication. J. D. Ely.
57 Compound Fracture of Humerus. T. S. Biggs.

Buffalo Medical Journal, December.

58 *Autoinfection as a Factor in Diseases of Infants and Children. J. Roberts Johnson.
59 *Three Varieties of Membranous Anginas Produced by Microorganisms Other Than the Klebs-Loeffler Bacillus and Their Sanitary Significance. William G. Bissell.
60 *The Longevity of the Gonococcus. E. Wood Ruggles.

61 *Blood Examinations. H. G. Matzinger.
62 Abdominal Drainage. A. L. Beahan.

The Physician and Surgeon (Ann Arbor, Mich.), October.

63 *Should the Laity Be Educated in Medical Matters? Carl Bonning.
64 A Good Showing in Medical Society Work. George Dock.
65 *Importance and Significance of the Reflexes. Irwin H. Neff.
66 *Etiology and Treatment of Purulent Pleurisy. Stanley G. Miner.
67 *The Principles of Metabolism and Nutrition. Leo Breisacher.
68 Diabetes Mellitus and Its Treatment. James H. Reed.

Kansas City Medical Record, November.

69 The Use of Eserine as a Myotic in Simple Extraction of Cataract Condemned. W. Leland Short.
70 Ovaritis. T. C. Boulware.

Clinical Review (Chicago), December.

71 *The Mechanics of Insufficiency of the Auriculo-Ventricular Valve. John A. Robison.
72 Clinical Lectures Upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
73 Exhibition of Surgical Cases, With Description of the Operations Performed on Them, and Comments on the Same. N. Senn.

Western Medical Review (Lincoln, Neb.), November 15.

74 The State Laws of Wyoming in Reference to Contagious Diseases. R. Harvey Reed.
75 Hematoma of the Vulva and Vagina. A. L. Wright.
76 Report of Some Cases. M. A. Hughes.
77 Case Reports on Liquor Sedans No. 2, Without Sugar. John Ashburton Cutter.

University Medical Magazine (Philadelphia), November.

78 *Nature and Distribution of the New Tissue in Cirrhosis of the Liver. Simon Flexner.
79 Review of the History of Cardiac Pathology, With Especial Reference to Modern Conceptions of Myocardial Disease. (Concluded.) Alfred Stengel.
80 *The Justus Test in Syphilis: Its Application in Twenty-nine Cases. H. M. Christian and Otto H. Foerster.
81 *The Dissemination of Tubercle Bacilli by Cows in Coughing a Possible Source of Contagion. Mazyck P. Ravenel.
82 *Personal Observations of the Bubonic Plague in Manila. E. F. Robinson.
83 *Renaut's Bodies in a Case of Vesiculobullous Dermatitis and Gangrene. William G. Spiller.

Medical Sentinel (Portland, Ore.), November.

84 The Clinical Importance of the Examination of the Blood. Ed. E. Maxey.

Canada Lancet (Toronto), November.

85 *Some Remarks on Forceps Delivery With Special Reference to Occipito-Posterior Cases. L. Bentley.
86 A Case of Hydatid Disease. Edmund H. Weir.
87 The Borderland of Mental Disease, from a Practitioner's Standpoint. Ernest Hall.
88 Some Physical and Mental Conditions in the Degenerate. Samuel Bell.

Dominion Medical Monthly (Toronto), November.

89 President's Annual Address—American Public Health Association. Peter H. Bryce.
90 Treatment of Appendicitis. J. Wishart.

Therapeutic Gazette (Detroit), November 15.

91 *Opium in India—A Medical Interview With Rudyard Kipling. Robert H. M. Dawbarn.
92 *On the Use and Abuse of Lavage. John Herr Musser.
93 Pelvic Massage. E. E. Montgomery.
94 The Treatment of Typhoid Fever. Alfred Stengel.
95 A Study of Some Heart Lesions and of Some of the Measures for Their Relief. (To be continued.) H. A. Hare.

Kingston Medical Quarterly, October.

96 Presidential Address—Kingston Medical and Surgical Society. J. C. Connell.
97 Modern Aseptic Surgical Technique. R. W. Garrett.

Medical Times (Philadelphia), November.

98 Some Applications of Static Electricity in Dermatology. Henry G. Piffard.

Merck's Archives (N. Y,), November.

99 The Therapeutic Management of Dyspepsia. C. H. Powell.
100 *Ichthoform as an Antiseptic. Professor Aufrecht.
101 *Myrtol in Affections of the Respiratory Tract. Solomon Solis-Cohen.
102 *Euquinin. Albert Bernheim.

Doctors' Magazine (Alma, Mich.), November.

103 The Lake Superior Region. Theodore A. Falch.
104 *The Curability of Inebrity by Medical Treatment. T. D. Crothers.
105 The Physician as a Sanitarian. Hugh A. Cowing.
106 Diabetes Mellitus. Alexander Bate.

American Journal of Surgery and Gynecology (St. Louis), November.

107 The Status of Gynecologic Work Among the Insane at London Asylum, Ontario. A. T. Hobbs.
108 Operative Treatment of Procidentia Uteri in Elderly Women. A. Lapthorn Smith.
109 Early Recognition by the Surgeon of Typhoid Perforation. Alex. McPhedran.
110 Occlusion of Bowels Following Appendectomy—Enterectomy Eighteen Hours After Delivery. Ernest Hall.
111 Some Experiences in the War in South Africa. G. Sterling Ryerson.
112 Sutures and Suture Material. Robert T. Morris.
113 Operative Treatment of Uterine Fibroids. F. A. Lockhart.
114 Round Ligament Ventrosuspension of the Uterus. D. Tod Gilliam.
115 A Bad Penetrating Wound of the Abdomen—Recovery. M. M. Gilbert.

Southern Practitioner (Nashville), December.

116 *Curability of the Insane. Orpheus Everts.
117 A Case of Hypertrophy of the Leg. T. W. Gallion.

Southern California Practitioner (Los Angeles), November.

118 The Physician and the Modern Complex Life. F. R. Burnham.
119 Placenta Previa. C. Heaton.
120 Lavage of the Stomach in Obstruction of the Bowel. L. G. Visscher.
121 A Plea for Early Radical Treatment in Pelvic Inflammation. H. S. Gordon.
122 Climatology of California. (To be continued.) C. G. Stivers.

AMERICAN.

1. **Pernicious Anemia.**—Dana gives the history of a case of pernicious anemia with decidedly morbid family history. He calls attention to this point and discusses the general pathology of the condition. There was a striking lack of vitality on the part of the generation to which the patient belonged. Out of fourteen children, twelve died in infancy and the other two before the age of forty. There was no evidence of lues, though he says it might have been present.

2. **Gastroptosis.**—Lockwood concludes his article as follows: 1, in the great majority of cases an adequate cause for the gastroptosis is not discoverable; 2, gastroptosis does not of itself, in an uncomplicated form, produce symptoms; 3, the displacement of the stomach, however, is a predisposing cause of a variety of gastric neuroses, of sensation, motion, and secretion; 4, these neuroses are usually induced by some definite mental or physical strain; 5, the displacement of the stomach is a strong exciting cause for muscular atony; that atony is the most common cause for the symptoms presented; 6, a complicating atony is associated with a more or less profound neurasthenia, and that a direct relation exists between these two conditions; 7, gastric acidity is increased in direct proportion to the atony, unless counteracted by gastritis; 8, mild degrees of gastritis are apt to occur in stomachs that are displaced, but the symptoms are neither severe nor persistent; 9, gastritis occurring in atonic and displaced stomachs reduces the excessive acidity of these cases and seems to modify the severity of symptoms; 10, atonic dilatation without mechanical hindrance is exceedingly rare; 11, dilatation, or better, muscular insufficiency, may occur in gastroptosis from duodenal kinking, from arterio-mesenteric constriction, or from pyloric spasm; 12, pyloric spasm is common in displaced atonic stomachs with hyperacidity, and may lead to a temporary dilatation; 13, in a large number of cases, inattention to the conditions of atony, of neuroses, and of gastric secretions has led to an unsuitable, insufficient diet which reacts both on general nutrition and on local conditions within the stomach; and 14, surgical intervention is applicable only to the cases in which dilatation exists.

3.—See abstract in THE JOURNAL of October 27, p. 1104.

4. **Typhoid Fever.**—The treatment of typhoid fever at the New York Hospital, according to Keays, consists in baths to regulate the temperature, sodium bromid, phenacetin, acetanilid and applications of cold to the head if necessary for headache. If sleeplessness is not relieved by baths, trional in 10 to 20 gr. doses, or sodium bromid is used. Delirium, if severe and not otherwise relieved, receives the same treatment. Sodium bicarbonate and myrrh are used for a mouth wash. When nausea is complained of, the food is modified, prepared milk made by adding cerium oxalate, 5 gr. and sodium bicarbonate, 10 gr. to the half pint, or peptonized milk is given. If this is insufficient, gastric sedatives are employed, such as minimum doses

of dilute hydrocyanic acid or small quantities of wine of ipecacuanha. Counter-irritation over the epigastrium sometimes is valuable. Constipation is treated by calomel in small doses followed by saline purgatives. About the second or third week no cathartics are given, but glycerin suppositories or soap-suds enemata are used. In diarrhea, if due to constipation, indicated by small movements, large enemata wash out the lower bowel and relieve it. If it is not due to fecal impaction, mild astringents, such as bismuth subnitrate or tannalbin are employed. Distention is generally treated by enemata containing from half a dram to a dram of turpentine. Turpentine stupes are also used. With the baths some cases require no other stimulation, but in others a moderate dose of whiskey should be given, except in alcoholic cases. Brandy may be used if whisky does not agree. The mild forms of bronchitis which occur are disregarded. If it becomes extensive or troublesome the ordinary remedies are used. The urine is measured during the active stage and a record kept. A specimen of urine is examined every three days unless more frequent examination is required. When the quantity of urine passed is small, the patient should be encouraged to drink more fluids. The ordinary, mild forms of nephritis are disregarded. Intestinal hemorrhage is relieved by quiet, discontinuance of tub baths, alcohol spongings for the temperature and antipyretics. If severe, the foot of the bed is raised, and hot saline enemata of about eight ounces each, are given every three or four hours and stimulation increased. If these are insufficient, hot saline solution is infused. Hot-water bottles are used to keep the temperature up if it falls below normal. If pneumonia supervenes, the treatment is modified only as new symptoms referable to pneumonia arise. In heart failure appropriate treatment is added, the baths are stopped and the temperature reduced if necessary by antipyretics. Phlebitis is treated by keeping the limb as quiet as possible and by the use of 25 per cent. ichthyol ointment along the course of the vein involved. Other measures sometimes used are carbolic dressings, tincture of iodin and lead-and-opium wash. For bed-sores, preventive treatment is employed. Each patient's back, shoulders and hips are rubbed daily with a paste made of zinc oxid, with 50 per cent. alcohol. Reddened areas are protected by dressings and rubber rings, and if necessary the patient is put on a water bed. If bed sores form, the dead tissue is cut away and stimulating dressings of 25 per cent. ichthyol ointment are employed. The routine diet is milk, but if the patient complains of hunger, broth or beef juice is given, and when the temperature has reached normal, more active feeding is begun. Proper mastication of the solid food is urged and the patient's diet is regulated for several weeks. In convalescence the stimulants are cut down as fast as the pulse permits and tonics given if needed, but good feeding and sleep are chiefly relied on. The bowels are kept well open by means of mild cathartics and after about ten days of normal temperature, the patient is allowed to sit up, but if there is any sense of weakness the time is cut short. The time is increased until the patient can sit up eight or ten hours, when he is given his clothes. Exercise is gradually tried, and after about three weeks with normal temperature, the patient is discharged. All utensils used for typhoid patients are marked and used for no one else; the bedding, dejecta and everything are disinfected.

5. **Diet in Typhoid.**—Brown's general conclusions are as follows: 1. The bacillus typhosus while the initial is not the preponderating factor in the toxemia. 2. In ordinary cases, the functions of digestion are attended by heat production, which is varied in amount by the kind of food ingested, proteids and carbohydrates giving the least number of heat units while promoting the most effective digestive fluids. 3. The process of digestive secretion is accompanied by a transudation of certain portions of the cell substance in the various glands, which require considerable time for restoration before they are capable of efficient work. Hence we should not feed too often. 4. An inefficient digestion leaves a large residue of food which undergoes fermentation, causes distention, increases the danger of hemorrhage and perforation; also forms a favorable culture-medium for the various bacteria, so increasing the toxemia, which in turn hastens the disintegration. 5. Milk unprepared is not a liquid food and will take as long to digest as many solid foods.

6.—See abstract in THE JOURNAL of December 1, p. 1426.

8. **Tuberculous Out-Patients.**—Dutcher discusses the conditions found in certain sections of Baltimore with especial reference to tuberculosis and its spread. They point, she says, to the rapidity with which the Baltimore houses are becoming centers of infection. During the past year 190 patients were under her observation, who occupied 234 houses. Old tenants moved out and new occupants moved in without any attempt at disinfection. The importance of the education of the public by house-to-house visitation is emphasized.

9. **Early Diagnosis of Tuberculosis.**—After reporting several cases to illustrate the points he makes, Rochester states the symptoms and signs on which he places positive reliance as the diagnostic indications of pulmonary tuberculosis. They are the history of cough or present cough, with or without expectoration, the difference of a degree or more between the highest and lowest temperature of the twenty-four hours, loss of strength, or weight, or both, more or less pronounced anemia, night-sweats though even only occasional, history of present existence or change of cervical lymph-glands and the persistence or development of cough after any of the acute infections. He describes his method of examining the chest when cough or any one of these symptoms, together with dulness, is present; in most cases the right apex is first affected. A slightly lessened movement, diminished expansion and a slight diminution in percussion-resonance are the earliest signs. One of the early signs is a slightly diminished intensity of breathing, particularly during inspiration with prolonged expiratory sound. Increase of vocal resonance and occurrence of expiratory whispering souffle or whispering pectoriloquy, associated with prolonged expiration, if heard in the supraclavicular region, are, he thinks, proof positive of infiltration, and if associated with any two or more previously enumerated symptoms, of tubercular infiltration. Other signs mentioned by him are the transmission of heart sounds to the intraclavicular region of the sight side, the cardio-respiratory murmur just below the clavicle, and if, in addition to this, there are moist râles, the diagnosis is more sure. He advocates the tuberculin tests in cases requiring still further evidence and does not discourage the value of sputum examinations.

11. **Sanatorium Treatment.**—The results of a recent trip to Europe have been utilized by Solly, who gives some of his experiences. He sums conclusions as follows: Sanatorium treatment is a good thing, particularly when patients are kept in the full air, but that is not quite such a good thing, or as widely applicable, as its advocates believe. It is not the quantity of the air, or the negative virtue of purity, that is alone desirable, but the quality of the air that is also of supreme importance; in other words, climate is of the greatest value, and if equally good hygienic conditions are given to the patient, he who is placed in the climate best suited to his needs is going to improve the quickest, and his disease is more likely to be permanently arrested. The oft-asserted belief of the advocates of home sanatoriums that a tuberculous patient is best cured in his own climate is a fallacy, in the author's opinion. He is cured as much on the mountain top, the wide plain, or the seashore as those cured at home, and no more and no less. There are certain evident economic reasons why home sanatoriums should be encouraged, up to a certain point. Where circumstances permit, however, it is safer to change the air and locality of the consumptive for a time, and by doing so results are brought about much more rapidly and surely than if he remains at home; but, climate without hygiene is but as "sounding brass and a tinkling cymbal."

14. **Sodium Cinnamate in Tuberculosis.**—Mann reports his experience with injections of sodium cinnamate beginning with 1/100 to 1/50 gr. and increasing it up to 1/3 or 1/4 gr. rarely exceeding this. The injection should be repeated every other day and perfect asepsis is essential. The duration of the treatment varies considerably, and he excludes from his report

all cases where the treatment has extended over less than two months. His experience with the drug has been favorable on the whole. He thinks he has had evidence that it quickens to a marked extent the healing processes when they are sluggish or altogether inactive in some, though not in all the cases. On the whole he believes the results have been better than they would have been without the treatment.

15. **Stomach Conditions in Early Tuberculosis.**—Reed concludes his paper as follows: 1. In early tuberculosis the secretion of HCl in the stomach is very frequently excessive, the peptic glands being in a condition of irritability which causes stimulant remedies of the creosote class to disagree and act injuriously. 2. Oils tend to depress the secretory function of the stomach and in consequence cod-liver oil is likely to help the cases which the creosote class of drugs hurt; but, on the other hand, hurts the cases in which the gastric secretion is inactive, the very ones in which creosote and the like often do good. 3. It ought to be the rule to ascertain the condition of the secretory function of the stomach before pushing either class of remedies. 4. When analysis of the gastric contents cannot be made, it is safer to combine creosote with cod-liver oil, so as to let one neutralize the other in their influence on the stomach. 5. The motor function is very generally depressed in tuberculosis and must be restored before a cure can be brought about. Drugs avail little in this direction, but diet, exercise, especially in the open air, faradism and abdominal massage—except when hyperchlorhydria complicates—are all valuable means of effecting the result.

19.—See abstract in THE JOURNAL of September 1, p. 579.

22. **Bacteriology and Medicine.**—While not disparaging the value of modern research in medicine, Robinson insists on greater attention to practical clinical studies and points out what he considers the errors that have been committed by too much attention to laboratory methods and bacterial research. He thinks the time has come when we should cry out against the too exclusive theory of disease. The germ theory is mighty and has prevailed up to the present time, but he does not wish to confess that it is universally applicable and that there are not other side-lights bearing upon the point. The etiology and prophylaxis of the disease demand our careful examination. We should always recognize and consider the patient himself as far more important than the disease. The clinician should rank foremost, not the bacteriologist.

31. **Pancreatitis.**—Lund gives the general results of six cases of pancreatitis in patients between 30 and 50 years of age, 5 of which were in women, 4 having also gall-stones. In no case was a definite diagnosis made, and operation was performed in 5, with one recovery. Of the deaths, one occurred two months after the operation from inadequate drainage, two from shock, and operation was declined by the surgeon in one non-operated case on account of the poor condition of the patient. Two of the cases would be properly classed as peripancreatitis, and one as necrosis of the entire pancreas following undoubtedly upon hemorrhagic pancreatitis. Case 5 was a localized necrosis of the pancreas resulting in abscess. As regards diagnosis, he thinks the pain is not quite so sharp as in perforated gastric ulcer and the moderate tenderness on deep pressure is as characteristic in pancreatitis, as is acute pain on light pressure in gastric ulcer. In all cases there was a sense of fullness of the stomach as of tumor. Muscular spasm was not so marked as in perforating gastric ulcer or acute appendicitis. An absolute diagnosis is generally impossible. Mild cases will recover both with and without operation. Severe cases require early operation for the following reasons: 1, because the primary hemorrhage in itself leads to necrosis and disintegration of gland tissue, and hemorrhages may be stopped, and necrosis prevented by gauze packing and drainage, and 2, because the patient is in a better condition to withstand operation early than later, when the disease is more advanced. In a certain class of cases, the primary shock may be so severe as to render operation out of the question. He thinks the mortality should be considerably diminished with early operation and adequate provision for lumbar drainage. The first exploratory incision should be made in the median line above the umbilicus and where the mass of blood clot or the abscess cavity extends into the left lumbar region, an incision must be made upon the finger passed into the cavity to afford drainage. In symptoms pointing to pocketing of pus above the spleen, the subphrenic space should be drained by resecting the tenth or eleventh rib in the posterior axillary line. The pleural cavity will be opened, but probably will be walled-off by adhesions. At any rate drainage of this pocket is essential in order to avoid perforation of the diaphragm by the abscess as happened in one of these cases. Care in diagnosis, rapid operative procedure, and careful nursing are necessary, as the proximity of the inflammatory process to the solar plexus and other important organs makes inflammation of the pancreas dangerous and difficult to treat.

32. **Gastric Hyperacidity.**—The treatment adopted by Hewes for hyperacidity of the stomach is described by him as follows: The patient is given a diet of a calorie worth sufficient for the weight and conditions containing as high proportion of proteid foods as comfortable for the patient. (In his experience the average patient with stomach trouble is eating less than half of a sufficient diet.) This diet is separated into six daily meals, the constituents of each meal, with some alternative choice, being prescribed. The treatment tends to use up the acid secreted and facilitates the motor function. Starches should be limited, and of carbohydrate foods sugars or predigested starches, dextrinized flours, as Avenacia flour or Horlick's food, used as much as possible, since starch digestion in the stomach is impeded in these cases. For all symptoms of disorder, as distress or eructations, some proteid, as a raw egg, is to be taken. An alkali, bicarbonate of soda in half-teaspoonful does, or 15 grains of magnesic hydrate, may be taken in addition to food or in place of it for the relief of symptoms. In some cases large amounts of alkali, 3 drams bicarbonate of soda, must be used in the twenty-four hours. Three pints of water are prescribed to be taken in small amounts at a time throughout the day. In addition, general rules in regard to baths, exercise, the bowels, the work, and general manner of living are laid down in writing. Debility must be treated by tonics. Nux vomica is a most useful agent here to improve the tone of the system and thus also perhaps the motor capacity of the stomach. Where anemia is present by blood tests, iron should be given. Chlorosis is not infrequently associated with hyperacidity. After an administration of iron with the regular régime for a few weeks, these cases as a rule lose all symptoms of hyperacidity even with cessation of treatment. There is little doubt that it is a similar improvement in nutrition which accompanies the increased diet, and good régime and freedom from nerve disturbances which ensure the cure in a majority of all the cases. The exact details of course differ with the cases, some are intermittent with no need of local treatment except during the period of attack while the general régime should be employed constantly to prevent recurrence. He finds the treatment gives excellent results in most cases. Less than 10 per cent. returned without relief and in these obstinate cases lavage often was found a useful adjunct.

33. **Subperiosteal Fractures.**—Cotton reports a number of cases in which he finds subperiosteal fractures differing from the ordinary green-stick type, the fracture being directly across the bone which was held in position by the intact periosteum. He says in conclusion: It seems that fractures in children showing no deformity and no appreciable mobility are not uncommon; that they might be readily overlooked; that they often need no reduction, having no deformity; that they repair with callus and quickly.

34. **Irritable Breasts.**—Cabot calls attention to the form of tumor occasionally seen in breasts, which correspond to the description of irritable breasts given in the old text-books of surgery. He thinks the condition lies rather on the borderline of medicine and surgery. The nature of the tumor is not definitely proved and he asks whether there is not any possibility that, in some of these cases, the accumulation might not be a galactocele, also whether it is possible or likely that these lumps are physiological. As to the prognosis, the question is

to be settled whether or not they become cancerous as some writers seem to think, and whether they should be operated on is also a matter of disagreement. The majority recommend potassium iodid internally with acetate of lead ointment externally and attention to the general condition. His paper seems to be mainly questions in regard to the different features and theories of this condition.

36. **Appendicitis.**—Bunts favors early operation in cases recognized as appendicitis and with moderate severity of symptoms. He thinks that this is better than waiting to operate between the attacks, for no one can tell what the result of the attack will be. In cases of great urgency and intensity of symptoms, the operation should be at the earliest possible moment. In cases not recognized as appendicitis for several days, he also thinks operation is indicated, though it may not be so urgently demanded. The white-blood count may be a guide in these cases as to the progress or diminution of the inflammation. If the former, operate; if the latter, delay is permissible. In cases recognized as appendicitis, but which have begun to abate before the physician sees them, he would advise against operation and would operate after the subsidence of the attack, when a few weeks of convalescence and recuperation have put the patient in a better condition to withstand the slight shock. He does not advise operating in all cases that have reached the interval. If the preceding attack has been a severe one, he urges it or if the patient has to go where it would be impossible to get operative relief in case of another recurrence, or is not sufficiently intelligent to be trusted as regards his case; but if he is intelligent, can obtain medical aid at any time and will agree to submit to an operation when needed, he does not insist because there may never be another attack. In cases in which delay has resulted in general peritonitis and septicemia, he has been tempted to say that operation is hopeless, as the chances are that the surgeon will get the credit of killing his patient, yet he does not say positively that he would follow that course.

39. **Hemorrhoids.**—Eliot described his operation as follows: Opposite the base of the hemorrhoid, parallel with and corresponding to the muco-cutaneous junction, a curved incision is made and carried upward in the same plane as in a Whitehead operation beneath the pile-bearing area until the base of the hemorrhoid is reached. A second curved incision is then made in and through the mucous membrane, forming an ellipse with the first-mentioned incision, and including within this ellipse any area of ulceration at the base of the hemorrhoid that may have developed as a result of the irritation to which the exposed surface of the mucous membrane overlying the hemorrhoid is subjected. From the junction of the two curved incisions, that is, from each pole of the ellipse, an incision is carried vertically upward through the mucous membrane only and the resulting quadrangular flap of mucous membrane is reflected from the surface of the underlying hemorrhoidal area, having its base of blood-supply superiorly. After the dissection of this flap of mucous membrane, the same vertical incision is deepened through the hemorrhoidal tissue proper, the resulting hemorrhage being slight, owing to the direction of the incision, thus forming a rectangular mass of hemorrhoidal tissue which is transfixed at its base with stout catgut —if necessary with chromicized gut; the ligatures are then tied tightly and the hemorrhoidal mass removed. The rectangular flap of mucous membrane is then stitched to the skin, and the retention of any discharge prevented by cutting the catgut ligature long and allowing the ends to protrude below between the sutures, thus acting as a drain. This same procedure is repeated in not more than two other places where the development of the hemorrhoids is most pronounced. At the conclusion of the operation, a dressing of sterile gauze is placed over the suture line, a large tube, surrounded by iodoform gauze having been previously introduced upward into the lumen of the gut to facilitate the exit of any gas or of accumulated fecal material. The advantages of the operation are that it produces prompt union and permits the complete excision of all areas of ulceration at the base of the hemorrhoids and lessens the possibility of future infection.

40. **Squint in Children.**—Veasey operates in all cases where proper glasses and orthopedic exercise fail to cure up to the age of about 6 years. The operation used consists of a tenotomy of one muscle or advancement of its opponent or both. If the defect is convergent a small amount of residual squint should be allowed to remain and in divergent squint it is better to produce a very slight convergence.

51. **Carbonic Acid Gas Per Rectum in Pertussis.**—Kerr reports a number of cases in which this method of treatment of whooping-cough was employed and describes the technique. He used a rubber tube with a hard-rubber nozzle, similar to those employed for rectal injections, connected with a bottle in which carbonic acid gas was generated for from about five to ten minutes, two or three treatments daily being sufficient, preferably between meals. The administration of the gas appeared to check the number and severity of the paroxysms very decidedly. The only effect noticed was a tendency to diarrhea which he attributed to mechanical irritation. In all but one there was a certain amount of cutaneous flushing after each séance. The duration of the disease itself was uninfluenced.

58. **Autoinfection.**—This article by Johnson calls attention to the possibilities of derangement of the nervous centers and other organs through autoinfection from the intestines, especially in infants.

59. **Membranous Anginas.**—After mentioning several cases Bissell concludes his article as follows: 1. The streptococcus pyogenes and the micrococcus of sputum septicemia can produce membranous anginas, accompanied by physical disturbances sufficient to result in death. 2. The oidium albicans produces pseudo-membranous exudates easily mistaken for a Klebs-Loeffler inflammation. 3. The only positive means of determining a Klebs-Loeffler infection is by microscopic means. 4. From the sanitary standpoint as regards quarantine, anginas due to the streptococcus pyogenes, micrococcus of sputum septicemia and the oidium albicans, require little consideration.

60. **The Longevity of the Gonococcus.**—The case reported here by Ruggles is of interest on account of the persistence of the gonococcus for more than ten years in the absence of all suspicious coitus. The man had been married nine years and had no trouble from his former complaint, but a dissipation with alcoholics and beer brought on an attack which microscopically revealed the microbe. The author holds that in view of these facts the gravity of the condition should be recognized and great scientific care should be taken in every case to prevent the suffering of the innocent.

61. **Blood Examinations.**—The methods of blood examination and their deficiencies are noticed by Matzinger, who points out that with the present methods the mere count of reds, the estimation of hemoglobin at arbitratry times without careful consideration of the many factors which may influence them, is little better if not worse than useless. We must notice the effect of the different hourly and daily physical conditions in estimating the relation between corpuscles and plasma, chromocytes and leucocytes, and perhaps chromocytes and hemoglobin. The ordinary limits of variation must be first established before disease limits of any practical value can be laid down. The mechanical difficulties are also noticed. The necessity of greater accuracy and of giving ample time to the blood-count is shown. He prefers the Oliver hemocytometer for ordinary use and calls attention to the personal error in the use of any of these instruments. He believes, however, that any careful, unbiased physician, no matter how busy, who possesses a little knack in handling instruments and the ordinary amount of patience, can get very useful information in at least all chronic diseases and disorders associated with fever. A specific-gravity outfit for hemoglobin, the Oliver tintometer or hemocytometer and a box of cover-slips with a microscope are all that is required for good work, if he will remember that digestion, vasomotor disturbances, exercise, position and last but not least, individual peculiarities, etc., have to be considered when interpreting the findings.

63. **Lay Medical Education.**—Bonning holds that the laity should be instructed in medical matters, that the principles of biology should be taught in schools, also the general facts in regard to contagion and infection and that special lectures on reproduction, etc., should be given to advanced classes. There should also be medical lectures in the community to educate the public as to the curable and incurable diseases and the proper means within their power of meeting these. He holds we ought to educate the public not to be guided by gossiping friends, but to consider every worthy and educated physician as a confidential adviser.

65. **Significance of Reflexes.**—The general subject of reflexes in diagnosis and prognosis is reviewed by Neff, who goes over all the facts and sums up as follows: 1. The examination of the more important reflexes is a matter of practical value to the physician. 2. In order to appreciate the diagnostic and prognostic value of the reflexes, a knowledge of their behavior in health is essential. 3. A certain technique is always indicated, otherwise wrong inferences may result. 4. When examining reflexes for diseases undue importance should never be attached to an alteration in a single reflex. 5. Certain definite changes in reflexes are suggestive and at times pathognomonic. Such modifications should be considered with the syndrome of the suspected disease.

66. **Purulent Pleurisy.**—Miner reviews the methods of treatment of empyema and describes the operations, especially thoracotomy by simple incision and thoracotomy with rib-resection, which is the operation in favor in adults in this country; thoracoplasty as a sort of last resort is also mentioned.

67. **Metabolism and Nutrition.**—The article by Breisacher is long and can not be abstracted in detail. He gives the results of experiments on himself with special diet and reiterates the views expressed by himself in earlier papers regarding the advisability of adopting a minimum quantity of albumin to nourish the human individual.

71. **Mitral Insufficiency.**—Robison describes the symptoms in mitral insufficiency and suggests the following as therapeutic needs in the condition: 1. Proper heart nutrition, by diet, rest, massage, Schott baths, and mental rest; 2, proper innervation, by strychnia, oxygen, fresh air and sunshine; 3, regular muscular action, by digitalis—the remedy par excellence—and other cardiac tonics, and 4, the relief of suffering in the latter stages, by securing diuresis by calomel, digitalis and diuretics and removal of fluid of ascites, hydrothorax, etc.

78. **Hepatic Cirrhosis.**—From a study of the tissue formation in cases of cirrhosis of the liver, Flexner comes to the following conclusions: 1. In all forms of cirrhosis the white fibrous tissue is increased. 2. Along with the increase of white fibrous tissue there is a new formation of elastic tissue, which is derived from pre-existing tissue in the adventitia of blood-vessels and the hepatic capsules. 3. Both white fibrous tissue and elastic tissue, in all forms of cirrhosis, may penetrate into the lobules. This penetration takes place along the line of capillary walls or follows the architecture of the reticulum. The chief distinctions between the histology of atrophic and hypertrophic cirrhosis depend upon the degree of extralobular growth and the freedom with which the lobules are invaded. In hypertrophic cirrhosis there would appear to be less interlobular growth and an earlier and finer intralobular growth. 4. The alterations in the reticulum, per se, consist, as far as can be made out at present, of hypertrophy rather than hyperplasia of the fibers. It is still uncertain whether any of the differential methods now in use suffice to distinguish between the reticulum and certain fibers derived from the white fibrous tissue of the periphery of the lobules.

80. **The Justus Test in Syphilis.**—This blood reaction is based upon the following proposition: Mercury destroys the hemoglobin of the blood. In non-syphilitics the organism rapidly replaces the lost pigment, while in syphilitic patients it can not at once restore the still further reduction caused by mercury, hence the first examination after inunction or injection of mercury will show a distinct fall of from 10 to 20 per cent., which, as treatment is continued, is followed by a steady rise to the normal. Christian and Foerster conclude that to properly estimate the value of this test we should find out whether it occurs in syphilis only and not in any other disease and they give the results of experiments and examinations which cover some 29 cases; in 16 a reduction of the hemoglobin occurred, no change in 6 cases, increase of hemoglobin in 7 cases. In 6 cases where a decrease is noted the fall being 5 per cent. or under, the results were practically negative. In the remaining 10 cases where a positive reduction was noted they found it occurred in 3 cases of active secondary syphilis where no test was needed to make the diagnosis complete. In 2 cases there was a fall in the hemoglobin prior to the appearance of the rash. This might have led them to infer that the test had some real value in the differentiation between chancre and chancroid were it not for the results obtained in two other cases both undoubtedly cases of chancroid where the fall also occurred and in one of which it was the most marked in the whole series. In 6 cases no change whatever in the hemoglobin took place, and in 3 of these the disease was very active, the eruption profuse, and in one of a pernicious and malignant type. In tertiary syphilis with tubercular lesions, or latent lues, with no lesion to be seen, the results were entirely negative or showed some slight increase. No appreciable change was noticed in any of the control-cases save in one instance, a case of sexual neurasthenia, where there was a fall of 18 per cent. As regards the value of the test the investigation leads the authors to the following conclusions: 1. that in the diagnosis of doubtful ulcers it is of no value; 2. that it seems to occur in a certain proportion of cases of acute secondary syphilis, where it appears to be a symptom of the disease and can in no sense be considered a true test, as the diagnosis in such cases is already complete, and 3, that as a test it is unreliable.

81. **Tuberculosis.**—Ravenel has investigated the possibility of the conveyance of contagion of tuberculosis by cattle in the act of coughing. He used the ordinary nose-bag, near the bottom of which was placed a shelf of soft pine wood sterilized by steam heat each time before using. In this way he was able to collect whatever was ejected in coughing by the cow, the more solid particles being easily removed and examined under the microscope. He was thus able to detect tubercle bacillus in every tuberculous cow in which it was tried. What might be theoretically expected was practically demonstrated, viz., that the cow, as well as man, atomizes its sputum and projects it into the air in minute quantities which may float for a considerable period of time. Specimens collected in this way were used in inoculating experiments in guinea-pigs and a considerable proportion of positive results obtained, even when the bacilli could not be demonstrated. In 34 examinations carried out in 5 different tuberculous animals, the bacilli were detected 20 times. By the means of a special nose-bag, guinea-pigs were also exposed to the breath of cows in whose sputum tubercle bacilli had been found, for periods of two hours or more at different intervals. The animals were killed after several weeks, but no evidence of tuberculosis was found in them.

82. **Plague in Manila.**—Robinson gives the results of personal observation on bubonic plague in Manila. He remarks that it is not dreaded in the Orient as it is in the West, and that Europeans seem little liable to it. Plague has been known to exist in Hongkong for the past five years and in this time but two cases have occurred in Europeans, and both of these could be directly traced to cohabitation with Chinese. The first cases of plague were discovered in Manila on December 29, 1899, and prompt and efficient measures were instituted, notwithstanding the opposition of the natives. The results of these were soon apparent, as the epidemic was well in hand in two weeks.

83. **Renaut's Bodies.**—Spiller reports the finding, in a peculiar case of vesiculobullous dermatitis and gangrene described more fully elsewhere, of the structures in the nerve bundles of the brachial plexus which were doubtless the formations de-

scribed by Renaut in 1881 and later by other writers, and which have since been known under the name of Renaut's bodies. These are not so well known as desirable, and there is some danger that they may be regarded as new and unrecognized forms of degeneration of the nerve. He is not able to make definite statements in regard to their function, but thinks there is little evidence that they are intended for the protection of nerve fibers, as has been held by some observers. These bodies are formed of delicate wavy bands of connective tissue arranged concentrically in a transverse section of a nerve, and, in the main, longitudinally, though in some places transversely, in a longitudinal section. They contain a few oval nuclei also arranged concentrically in transverse sections. A nucleus is usually within one of the bands of the wavy connective tissue. A central homogeneous mass is not very distinct in his preparations. In longitudinal sections of a nerve, Renaut's bodies are much longer than broad, and sometimes spindle-shaped. He has not been able to observe anything resembling a nerve or vessel in the center of any of them. They are usually at the periphery of the nerve body, but may be in the center, and, while generally round in transverse sections are, not always so. They are always sharply separated from surrounding nerve fibers, and this is one indication that probably they are not degenerated tissue. He has also found the peculiar cells discovered by Langhans and named by him "one and more chambered bladder-cells" which are of various forms and contain many dividing septa, one to three nuclei near together. These are very irregular in shape and the cell body is unstained in his specimens excepting in the dividing septa.

85. **Forceps Delivery.**—Bentley favors the use of forceps. In his last 100 cases he has used them in 35 and would have used them in more but for the prejudice of the patients. If the forceps are applied well over the head and traction is made in the right direction they will not slip. He does not think that the axis-traction forceps are indispensable. All that is necessary is instruction as to the correct axis in which to direct traction, which can be done with the ordinary forceps, while the tendency of the fetal head to rotate can not be so well favored by axis-traction forceps. As regards occipito-posterior positions he has seldom made the diagnosis before rupture of the membranes, and after that it is useless to attempt to alter the position excepting by the slight means we have of imitating the natural course of rotation of the occiput forward, and this, in his opinion, can be done better with the ordinary forceps than with anything else. In five years he has delivered ten cases with face to the pubis, two of these primipara and was successful in every case but one, which he attributed to the incompetency of the would-be nurse, from whom he had no help whatever. He has had but a few superficial tears, which as a rule required only one stitch, and never more than two. He attributes his success to: 1, treating each case on its own merits; 2, relaxing the central portion of the perineum at the expense of the outer sides, and 3, keeping perfectly cool and being in no hurry. The infants have usually required artificial respiration and other usual means of resuscitation.

91. **Opium in India.**—Dawbarn gives the substance of a conversation in regard to opium in India with Rudyard Kipling, who believes that it is not damaging to the natives of India, that it is useful to some of them in protecting them from malaria on account of the narcotine contained, and is also a tonic as used there. He also criticizes the missionaries and clergymen who condemn the opium business in India, overlooking home evils. Dawbarn is careful to say these statements are Kipling's, not his own. In conclusion he notices a description of the preparation of opium, one phase of which is the moistening of the material with saliva, which he thinks ought to go far to prevent if not to cure the opium habit.

92. **Lavage.**—Musser calls attention to the abuse of lavage when left in the patient's hands and says that not 5 per cent. of the cases of gastric disease under his care have required it. If he employs it, he prefers to do it himself or have a medical man to do it. To allow patients to do it soon develops in them a habit.

100. **Ichthoform.**—This substance, a compound of ichthyol and formaldehyde is here reported on by Aufrecht, who tested its powers on serum and gelatin cultures and on fresh meat and found it exceedingly disinfectant. He thinks, therefore, that it will be a very valuable local application to wounds. A number of experiments were made on animals to determine its toxic properties, giving an initial dose of 1.5 gr. increasing it until the guinea-pigs received as much as 12 gr. Two of the six guinea-pigs experimented on died, but showed no special signs of any poisoning by ichthoform. The heart, spleen, liver and intestines were perfectly normal. The control experiments made with iodoform showed that death was caused by 3 gr. doses with marked engorgement of the heart. In rabbits as much as 25 or 30 gr. were given apparently without affecting the health of the animals; 46 gr. produced temporary toxic symptoms. In one patient as much as 4 gr. of ichthoform were given daily in a case of chronic intestinal catarrh without apparent bad effects and with a decided decrease in the indican and the sulphate excretions. He thinks that its use is indicated in cases where there is an increase of elimination of ethyl-sulphuric acid, in acute intestinal fermentation, stasis of intestinal contents, intussusception, diffuse peritonitis with atony of the intestines and in tubercular enteritis. He believes it to be a relatively non-toxic substance, surpassing iodoform and analogous antiseptics and that it is an intestinal disinfectant of the first order and yet wholly or practically odorless and tasteless.

101. **Myrtol.**—Solis-Cohen has employed this drug, which is obtained from myrtle oil by fractional distillation and is probably a combined substance containing special constituents not yet separated, some sedative, some stimulative. It is an oily liquid of slightly yellow tint, pungent taste and characteristic odor. Like all substances of this class it is eliminated by the mucous membranes and by those of the bronchial and genito-urinary tracts particularly, hence it has been employed in disorders of the bronchial mucous membranes and those of the bladder and urethra. Linarix records a number of cases of gleet and gonorrhea and cystitis in which treatment with myrtol was very successful after the other remedies had failed. He sometimes combines it with other drugs such as salol and methylene blue with sandalwood oil, etc. Cohen's own experience with myrtol has been favorable. The best results have been in obstinate cases of bronchorrhea, dilated bronchi, fibroid tuberculosis, with bronchietatic cavities and in bronchitic asthma. In all these cases there have been failures as well as successes, but myrtol seems to have the power in most cases of promoting healthful, and diminishing unhealthful secretions. In most cases of asthma in which paroxysms seem to be brought about by the effort to dislodge secretions not sufficiently moist to be easily expectorated, myrtol seemed to increase the ease of expectoration while later it diminishes its frequency and quantity. He gives several illustrations of its results and remarks that he has called attention to it not as a miracle-working substance, but as one of a number of drugs belonging to a useful group to which we can resort from time to time with the hope of accomplishing much good. Its influence in suppressing cough is decidedly marked and it should be given always in those cases of chronic or subacute inflammations of the respiratory or urinary tract in which eucalyptol, sandalwood oil, terebene, and turpentin for one reason or another have failed or seem undesirable. He has not found it produce strangury in any case. The dose is about the same as that of turpentin, terebene, or sandalwood oil, which is 5 to 15 min. given from two to five times in the course of twenty-four hours. When combined it may be given in emulsion, dropped on sugar or given in sealed capsules—in other words, it is handled just the same as turpentin. Other disorders mentioned by other authorities are leucorrhea, uterine ulcers, wounds, skin affections, dysentery, hemorrhoids, sore throat, conjunctivitis and diabetes. Cohen's experience, however has been purely with its use in affections of the respiratory tract in which he has employed it more and more satisfactorily.

102. **Euquinin.**—Bernheim has employed euquinin, the carbonic ether of quinin, which is not a mixture but a definite chemical compound with a melting-point at 95 C. and soluble in alcohol, ether, chloroform, solutions of hydrochloric acid, ferric chlorid, and vinegar. The bitter taste is less marked than in quinin and may be covered easily by syrup or flavoring oil. He has used it in malarial fever, neuralgia, angina, cold in the head, influenza, rheumatic pain, whooping-cough, anemias, and gastrointestinal disorders in thirty-five cases altogether. He finds its effects similar to quinin in malaria, though a little more prompt perhaps and a smaller dose is required. In whooping-cough the attacks appear less frequent and severe. In other disorders the effect was similar to other antipyretics and anti-neuralgics, though smaller doses were required. The ringing in the ears and gastric disorders were less than with quinin. In no case did he see any unpleasant by-effects and thinks it may well replace other quinins.

104.—This article has appeared elsewhere. See THE JOURNAL of October 27, ¶28, p. 1115.

116. **Curability of the Insane.**—Everts remarks on the opinion extant about thirty years ago, that 80 or 90 per cent. of these cases of insanity were curable if intelligently treated. His experience has led him to conclude that this was a grand mistake. The mid-century specialists in psychiatry erred because they were ignorant of the biologic sciences and they concluded that as nearly all diseases were amenable to treatment, therefore insanity should be. About one case in three of insanity is liable to recover, because not all diseases of the brain are degenerative. The value of asylum treatment of any treatment of insanity is practically to prevent such curable diseases from becoming chronic and incurable.

FOREIGN.

British Medical Journal, November 24.

Some of the Sequelae of Cranial Injuries. ERNEST TREDINNICK.—The author has collected a number of cases of cranial injury including 6 chiefly of the frontal bone in which there were moral perversions produced and 8 of skull injury causing traumatic dementia, 1 of diabetes following brain trauma, and 1 of epilepsy relieved by trephining. He also has collected from various sources 45 other cases of traumatic epilepsy in which the injury ranged from laceration of the brain substance and hernia cerebri to simple concussion. In 33 cases the injury was parietal; in 8, frontal; 2, mastoid; 1, vertex, and 1, occipital. The unconsciousness after injury ranged from a few minutes to several days. Epilepsy appeared at periods from immediately after the accident to eleven years. Twenty-four of the cases in which the injury was parietal were operated on; in 1 with no results; in 1, fits recurred; in 1, one fit occurred a year; in one, comparative recovery; three died and the remainder completely recovered. Of the 9 cases which were not operated on 5 died, 1 was cured, and in 3 the epilepsy continued. In 7 cases of frontal injury operated on, 4 recovered, 1 improved but died, and another treated with potassium bromid died, and 1 not operated on also died. He thinks these results show the value of trephining when the injury to the cranium has occurred, and would advise careful examination in old cases of epilepsy to see if any old scar exists. His paper is defective in that it does not give the time that had elapsed since the patients have been under observation in the so-called recoveries.

An Epidemic of Peripheral Neuritis Among Beer Drinkers in Manchester and District. ERNEST SEPTIMUS REYNOLDS.—Reynolds has investigated the beer-drinkers' disease recently occurring in Manchester, England. The symptoms seem to show an epidemic of peripheral neuritis involving the sensory, vasomotor and motor nerves associated with running of the eyes and nose in many cases and marked lesions of the skin, such as erythema and erythromelalgia, blisters, keratitis, etc.; there were also symptoms of paralysis. Such an epidemic has never occurred in the district for the last twenty-two years to his personal knowledge and at present is met with only in the beer and porter drinkers. It is something like the ordinary alcoholic paralysis at first sight, but differs from it in the great amount of sensory and vasomotor disturbances, and especially in the peculiar skin lesions which are not present in the ordinary alcoholic paralysis. So far as known, there are only three causes of peripheral neuritis of the type mentioned and associated with marked tenderness on pressure of the muscles; they are beri-beri, alcohol and arsenic. The former will not explain the lesions of the skin and against alcohol is the fact that the features of this epidemic are something new and beer-drinking is not a new thing in the district. He found on November 18, a considerable amount of arsenic in certain beer used in the district and confirmed the observation next day and has Prof. Dixon Mann's authority for stating that he has also found arsenic in a different sample. He believes that the source of the arsenic will be found in the sulphuric acid used in the hop industry.

The Lancet, November 24.

Mouth-Breathing and Its Relations to Diseases of the Throat, Ear, Nose and Accessory Cavities. MAYO COLLIER.—The writer here describes the effects of mouth-breathing. He first speaks of the anatomy of the respiratory passages and the physiology of the act of breathing, and then says that the pathologic effect of mouth-breathing is catarrh of the larynx and pharynx, with cough. He asks whether there are not other effects, and maintains that there are. The dilator muscles of the nose are put functionally out of use and in mouth-breathers there is a marked pinched depression in the alæ of the nose which is diagnostic of the condition, and gives a sharp and pinched expression to the features. The air in normal breathing through the nose abstracts part of the contents of the nasal pharynx and nasal chambers, which is rapidly repaid and tension equilibrated. In mouth-breathing this fails, and the result is a general redness of the mucosa of the nose from unsupported intravascular pressure. The abstraction of small quantities of air from its nasal chambers and the nasal space by the stream of air on its way to the lungs via the mouth, if not instantly compensated by a corresponding inflow of outside air via the anterior nares will cause a lessening of the tension of the air in the nose and accessory cavities. This lessening tension will be responded to by the lining membrane of the nose and accessory cavities as a general redness or flushing of the parts, and this will occur in direct proportion to the regree of rarefaction. On the recognition of this fundamental fact rests, in his opinion, the whole science and treatment of the throat, ear, nose and accessory cavities. If mouth-breathing is persisted in, even in the hypothetical conditions of a healthy and patent nose it would ultimately induce anterior nasal obstruction from atrophy following disuse of the nose-valve. This will be followed by swelling of the lining membrane of the nose and accessory cavities from vascular dilatation. This again would lessen the cavities of the nasal respiratory tract and tend to set up nasal obstruction. A vicious cycle is set up. Mouth-breathing tends to obstruct the nose, and this very obstruction maintains and continues the mouth-breathing. The turbinal body is the most functionally-active organ in the whole system. It is calculated that two quarts of water a day are given up to inspired air by this body and the lining of the nasal tract and that all the air that enters the larynx, no matter what the outside temperature may be, is warmed to near the body temperature. This important function, therefore, is put out of use. He explains how a mouth-breather may breathe normally during the day, but soon after he places his head upon a pillow, the nose is blocked, and explains this by the loss of tone of the turbinal bodies with or without hyperplasia. The effect of changing from the upright to the prone position obstructs the nostril and dilatation of the turbinal body in the lowered nostril. He finds that the effects of atrophy and dilatation of the turbinated bodies are not limited to the respiratory tract, but involve also the cavities and chambers which connect with the nose and naso-pharynx. Affections of the ethmoidal, sphenoidal, and maxillary sinuses may be originated or kept up by obstructive conditions of the nose, and sometimes total obstruction is produced. Deafness will be produced by blocking of the nose, and treatment directed to restore the patency of the nose will restore the patency of the Eustachian tube. He maintains that the key to the prevention and treatment of diseases of the ac-

cessory cavities of the nose including the tympanic cavity is to maintain the natural physiologic condition and see that its respiratory capacity is sufficient readily to equilibrate the air in the respiratory tract during respiration. He maintains, moreover that this condition of chronic turbinal distension and hypertrophy has a tendency to produce unsymmetrical upper jaw, high-arched palates, prominent nose, open mouth and a thin, flattened face. He has seen many children with beautifully-formed faces, symmetrical dental arches, and perfect nasal respiration, become in after-life quite altered. He also mentions the effect on the general health which is noticed in children affected with post-nasal growths or enlarged tonsils. He thinks that in these cases want of proper oxygenation at night is the probable cause of the altered and damaged complexion. Whatever be the explanation, it is our common experience that if the nasal respiration be restored, and nose and throat trouble cured, the patient speedily returns to health.

Ichthyol and its Uses in Some Skin Diseases. ALEXANDER BROWNLIE.—The writer's experience with ichthyol leads him to say that from 2 per cent. to 5 per cent. ichthyol applications are best in acute forms of inflamed skins, and from 5 per cent. to 10 per cent. in more chronic drier conditions. In acne vulgaris anything between 10 per cent. and 25 per cent. is useful. In all cases the internal administration of the drug is an assistance. He believes that ichthyol taken internally has a direct influence on the skin and is most probably excreted by it. Moreover, the taking of ichthyol increases weight, and this applies more particularly to weakly, strumous children. The one disappointment which he records is that itching is not relieved as quickly as one might expect, certainly not as quickly as the pain is relieved. Patients express gratitude for the feeling of comfort experienced, but itching soon returns. The pruritus does indeed disappear after a time, but it is always the last symptom to go. In prurigo and pruritus vulvæ or ani he has not found much benefit to result from the use of ichthyol, particularly in those cases where there is no organic cause, such as diabetes, ulcus cervicis or anal fissure. He has tried ichthyol in eleven such cases, and in only one has he had satisfactory results, in a case of pregnancy with pruritus vulvæ. When prescribing ointments, he always advises patients to use their oldest under-linen, as ichthyol has a staining effect, although it is stated that if quickly washed in warm water any clothing thus stained is made quite clean again. Ichthyol, of course, is not applicable to every case of eczema or acne, neither does he claim for it a specific action, but it is undoubtedly a useful drug in these diseases.

Fourteen and One Half Hours' Artificial Respiration in a Child One Week Old: Recovery. GEORGE E. KEITH.—The case of a child one week old is reported, which was operated on for phimosis under chloroform, passed into a cyanosed condition and required fourteen hours of steady application of artificial respiration together with very active stimulation with brandy and came through all successfully without apparent damage.

Bulletin de l'Academie de Medecine (Paris), November 13.

Intravascular Pressure.—An important monograph received by the Academy in competition for the Pourat prize suggests an improvement for volumetric apparatus such as Mosso's plethysmograph. Instead of the mercury U-tube, a registering sphygmoscope records the differences in amplitude and variations in pressure. To obtain the numerical value of the pressure it is only necessary to attach a compensating manometer to the sphygmoscope. The anonymous writer also describes an apparatus for determination of the intravascular pressure by means of the fingers. It consists of two cylindrical metal U-tubes, connected by a rubber tube, and also attached to a T-tube. The free branch of the latter communicates with a lever which records the tracings on a revolving cylinder. A very elastic rubber cot, like the finger of a glove, is fastened in each end of the two cylindrical tubes and in them the index and middle fingers of each hand are inserted. By this combination of four fingers a distinct, strong pulse-beat can be registered on the drum. The small apparatus is fastened by a standard to the table and accurately records the vasomotor variations or oscillations in the peripheral capillary system.

Bull. de la Soc. Med. des Hop. de Paris, November 15.

Pulmonary Embolism and Tardy Phlebitic Symptoms. P. MERKLEN.—Phlebitis originating in an embolism is usually less serious than ordinary phlebitis, but Merklen reports two fatal cases. He distinguishes between resolving and obliterating phlebitis. Pulmonary embolism of phlebitic origin is apt to occur by the third and fourth week. Barth classifies phlebitis according to the reaction of the vein. When there is no reaction the phlebitis may terminate suddenly by the sweeping away of the obstruction with danger of embolism. On the other hand, the phlebitis may linger and terminate incompletely, but the formation of intravenous adhesions in this case rapidly obviates the danger of embolism. Hagopoff prevents phlegmasia alba in parturients by raising the lower limbs at an angle of 20 degrees. If there is fever he increases the angle to 50 degrees for fifteen days, and if there are evidences of varices he supplements this measure by alcohol frictions morning and night. Massage in phlebitis is dangerous until three or four weeks have passed after the slightest temperature and then the veins themselves should be avoided.

Journal de Med. de Paris, November 11.

Veratrin in Climacteric Pruritus. LUTAUD.—When the pruritus is localized, with or without eruption, Lutaud orders a salve applied morning and night of 15 cgm. veratrin in 30 gm. lard. If the pruritus is general, he prescribes the veratrin internally: 2 cgm. in licorice powder, for lx pil., commencing with one pill and increasing by one to a maximum of six a day, taken half an hour before or three hours after meals. The analgesic properties of the veratrin are very successful in the rebellious pruritus of the menopause.

Presse Medicale (Paris), November 14.

Musset's Sign in Pleurisy. H. FRENKEL.—The rhythmic movements of the head isochronous with the radial pulse, observed in persons with an affection of the aorta, have been considered a pathognomonic sign of an affection of the circulatory system. But Frenkel relates an instance in which it was a pronounced symptom in a serous pleurisy of the left side with a large effusion, and no evidences of any disturbance in the circulation.

Revue de Medecine (Paris), November.

Wound of Left Vertebral Artery. BOUCHARD.—A stab wound in the neck resulted in an intraspinal hemorrhage causing absolute paralysis of the trunk and all the members. In the course of two years, however, the patient recovered almost completely and was able to walk. The pressure of the hematorrhachis must have been less intense in the upper portion of the spinal cord, which explains the non-interference with circulation and respiration.

Berliner Klinische Woch., November 5 and 12.

Diagnosis of Pyelonephritis Calculosa. L. THUMIM.—In the case described the phloridzin test and the determination of the freezing-point of the blood demonstrated the existence of serious alterations in the parenchyma, accompanying an abscess in the pelvis of one kidney, while it also demonstrated the soundness of the sister organ, justifying nephrectomy. The course of events confirmed the diagnosis in every point.

November 12.

Anatomic Lesions in Acromegaly. E. MENDEL.—A round-celled sarcoma was found in the hypophysis at the autopsy of a young woman who had suffered from acromegaly for two years. Besides the typical symptoms, there had been hemianopsia, cessation of menses, absent knee-jerk, hypertrophied thyroid and spleen, and intense frontal and occipital headache. Mendel thinks the lesion in the hypophysis is insufficient to explain the symptoms observed, and attributes the disease to a general affection of the blood-glands, due to the action of some unknown poison with a special affinity for the hypophysis.

Centralblatt f. Bakteriologie (Jena), November 5.

Third Preliminary Communication in Regard to Malaria. A. CELLI.—The parasites of the gravest forms of

malarial infection were found as widely distributed throughout Northern Italy as in the southern portion, and even in some of the valleys on the Italian side of the Alps. Wherever malaria was found the anopheles was discovered, but the latter was found in many places free from malaria present or past. Celli made a special study of relapses and states that the presence of certain forms of the parasite in the blood in severe tertian and quartan fever and also the ability to be up and about differentiate relapses from fresh infection. He has observed a relapse nine months after the last manifestations of estivo-autumnal fever and eight months after mild tertian. These relapses can be postponed by prolonged and lavish use of quinin with iron and arsenic, but it is impossible to prevent them altogether in some patients. It is impossible therefore to rely on quinin as an adequate means to exterminate malaria until some means has been found to destroy the germs in the blood which keep up the relapses and resist quinin. He noticed that a temperature of at least 25 C. was an indispensable preliminary to an epidemic.

The Paestum Malaria Prophylaxis Experiments. B. GRASSI.—The results of this season's tests of the prophylaxis of malaria by protection against mosquitoes, enable Grassi to affirm with certainty that it is possible to free Italy from malaria in a comparatively short space of time. The houses had wire screens at doors, windows, chimney openings, etc., and each house had a netting pavilion in the yard for those who wished to sleep during the day. Persons obliged to be in the open air after dusk wore veils gathered on a rubber band around the hat and thick, very closely-woven, cotton gloves. The number of persons thus protected was 104 and only three showed symptoms of malarial infection. Grassi himself slept there three nights a week and other physicians or students four nights or every night. No quinin was taken, the entire party used only 16 grams of quinin during the months of the test, and this was given mostly to persons who suffered from lack of their accustomed medication. These results are more surprising when compared with the detailed statements of the health of the neighboring farms and stations all around the protected zone. Out of a population of 307 souls, all but five contracted malarial infection, and these five were sons of the soil who had probably acquired some degree of immunity. Three kilograms of quinin were taken by these 307 persons during the period of the Paestum experiment. Grassi adds that he had much to contend with from the carelessness and neglect of some of the protected parties. Prizes were found the best incentive to ensure compliance with the prophylactic measures ordered, as some had no faith in them.

Centralblatt f. Chir. (Leipsic), November 24.

Pyelocystostomosis. O. WITZEL.—The bladder can be pushed up in the cadaver as far as the iliac crest and in the living subject to the kidney, without injury. In case of hydronephrotic distension of the latter organ it is possible to establish a direct communication between the kidney and the bladder in this way. The bladder is filled and a catheter 60 to 80 cm. long inserted in narcosis, the pelvis elevated. After a lateral incision, as for ligature of the iliac communis, the bladder is brought up and fastened. The lowest portion of the kidney is drawn down and an opening of 1 cm. in diameter made between the two stretched narrow organs. The catheter is pushed into the pelvis of the kidney and held by a stitch, its outer end connecting with a rubber tube terminating in a vessel full of an antiseptic fluid. Witzel has perfected this technique on the cadaver, but has not yet had an opportunity to apply it on man.

Deutsche Med. Woch. (Leipsic), November 1 and 8.

Functional Heart Affections. H. HOCHHAUS.—In almost every case of cardiac neurosis Hochhaus found the blood-pressure increased even when the pulse was soft and high. In organic heart disease the blood-pressure averages 130 to 140 mm. mercury. Permanent elevation of the blood-pressure justifies the assumption of a functional disturbance in doubtful cases, and hence affords a less favorable prognosis. Radiography has shown that the heart action is excessive in a functional nervous heart affection; the difference between the shadow in diastole and systole is much greater than normal or in organic affections. Consequently the increase in the blood-pressure is evidently due to the increased heart action. The usual heart remedies are contraindicated in functional neuroses, but Hochhaus has been successful with small doses of digitalis associated with quinin.

Genetic Connection Between General Nervous Affections and Appendicitis. O. SCHAUMAN.—The possibility of a genetic connection between appendicitis and certain affections of the adnexa is admitted by Schauman. He does not go so far as to assume a direct relation of cause and effect, but merely that they all develop on a similar or common foundation, a peculiar, usually congenital, anomaly in the organs.

Pericardotomy. LINDNER.—Resection of the ribs is indispensable, Lindner considers, in pericardotomy for a purulent effusion. He reports two cases in which this operation was done as a last resort, with the most favorable results. In one case three-fourths of a liter of fetid pus was evacuated. The effusion was sero-sanguine in the other and had developed consecutive to an articular rheumatism complicated with influenza.

Monatss. f. Geb. u. Gyn. (Berlin), September.

Operative Treatment of Carcinomata Uteri in Russia. D. VON OTT.—A thousand cases of total extirpation of the uterus by way of the vagina are reviewed. The mortality was 10.3 per cent. In 250 cases operated on over five years ago, 30 have had no recurrence to date, including 4 dating from ten years ago. The adnexa are never removed unless for special reasons. Pregnancy is no contraindication to the vaginal route. In von Ott's own clinic the mortality in 189 cases was 1.6 per cent. In 18 out of 62 operated on before 1894 there has been no recurrence and nearly all of the 62 are still alive.

Monatsh. f. Prakt. Derm. (Hamburg), November 1.

Masks in Therapeutics. P. G. UNNA.—After seven years of experience with air-tight masks, Unna limits their use to lupus, ulerythema centrifugum and nævus flammeus, but considers them of great value in these affections. He applies them over a weak solution of sublimate or potassium in the first, after a course of green salve and as a preliminary to "Spick" treatment. He makes the mask by fitting pieces of "zinc plaster" over the face and smearing with "zinc glue." A piece of dressing mull is then fitted over the mask and smeared again with the glue. The strips for fastening are then put in place and glue again applied. The mask is kept on for a few hours or over night, then smeared inside with the glue and dried in a warm place. The whole is then painted inside and out with a solution of celluloid. It is ready for use in forty-eight hours and keeps several weeks. If painted again with celluloid every fortnight the mask will keep in good order for months. In case of ulerythema the mask is made to fit over the region affected and the compress beneath is moistened with a 1 to 1000 solution of potassium. For nevus the mask is worn only at night, over cotton moistened with his "ichthyol varnish."

Wiener Klinische Wochenschrift, November 8, 15 and 22.

Reflex Spasm in Abdominal Muscles in Pleuritis and Perihepatitis. R. SCHMIDT.—In cases of pleurisy or perihepatitis in which the reflexes are vigorous and the recti muscles well developed, a reflex spasm is liable to occur in connection with the act of respiration. In three cases the writer observed that toward the end of a deep inspiration a sudden spasmodic contraction occurred in the upper portion of the right rectus, extending upward to the fifth intercostal space. The same spasm could be artificially produced by pressure on the painful intercostal space.

November 15.

Fulminating Gangrene a Primary Necrosis. F. HITSCHMANN AND O. T. LINDENTHAL.—The elbow of a healthy man was resected on account of old traumatic ankylosis and a plate of celluloid inserted. The forearm became anemic and insensible the next day, and gas bubbles were noted in the tissues, with extensive necrosis of the muscles around the wound, but complete absence of any indications of inflamma-

tion. The gas-formation and necrosis progressed the same as in dead tissue. The essence of fulminating gangrene therefore seems to be a putrefaction of living tissue. Everything is to be gained by early amputation, but in case it is refused extensive incisions and injections of hydrogen peroxid are the most appropriate treatment. In the case described staphylococci were found in the lesion with the anaerobic bacillus previously described by the writers, who have now recorded seven cases of fulminating gangrene, in only one of which was this bacillus absent.

Hetero-Bone-Plastic Operation on the Skull. K. BUEDINGER.—Defects from three abscesses in the skull of a 5-year-old boy were closed with plates of bone from the calcaneum of a limb amputated from a woman of 70. The patient died from general tuberculosis four years later. The skull was found healthy and nearly intact. The results impel Buedinger to proclaim the advantages of the cancellous portion of the bone for this transplantation. The spaces fill up with new-formed tissue, and if the calcaneum is used, the plate of bone can be cut with the scissors to exactly fit the defect. The advantage of heteroplasty is that no second operation is necessary, and the transplanted piece heals in place as a foreign body.

Centripetal Ataxia in Man and Monkeys. E. HERING.—Comparing the disturbances in frogs, dogs and monkeys after division of the posterior roots, with the results of clinical observation in tabes, in each are noted the loss of centripetal stimulation, disturbances in position, atony even to disturbances of the finer co-ordination of the fingers in monkeys—the atony increasing with exclusion of light—increased passive mobility, relaxation of the muscles, so-called trophic disturbances and muscular atrophy and movements in the extremities of the resting animal, comparable with certain involuntary movements of the extremities in the tabetic at rest. This atony consecutive to paralysis of the centripetal fibers is evidently a centripetal atony and the close analogy between experimental and clinical data justifies the assumption that the atony in tabes is also centripetal, but whether sensory or not is still undetermined. It is probably due to the exclusion of the centripetal tracts, which are the means of involuntary regulation of the movements, not through the spinal cord, but by means of the higher located portions of the brain. Hering calls especial attention to the difference between the atony in tabes and the atony consecutive to a lesion of the centripetal tracts in higher located segments of the central nervous system. The atony in the latter case is not so intense as in tabes and affects chiefly the more delicate movements. There is no direct proportion between the atony and the absence of the sense of movement, which is another argument against the sensory theory. In tabes whole movements are lost which the normal subject makes unwittingly, involuntarily, and which the tabetic subject also makes when his attention is called to them. This work obtained the prize awarded by the Vienna Medical Society.

November 22.

Substitute for Iodoform. A. FRAENKEL.—Iodoform stimulates granulation by its fibroplastic influence, and Fraenkel believes that this is probably an attribute of any finely distributed, inert foreign substance. He has been extensively testing carbo ossium from this point of view, selecting this substance on account of its traditional value as a dressing for wounds. He reports twenty-two cases of local tuberculosis in detail, with microscopic views of sections of tissue. They show that the results of the carbo ossium are, to say the least, fully equal to those of iodoform, while there is no possibility of intoxication. The fibroplastic influence is marked, but as a deodorant, iodoform is superior. In all other respects carbo ossium is at least its peer.

Zeitschrift f. Orthop. Chir. (Stuttgart), vii, 2.

Effect of Supporting Corsets in Scoliosis. A. HUSSY.—Tables showing series of cases of scoliosis treated with and without corsets prove conclusively that corset treatment should yield precedence to other and more effective methods of treatment, unless there is much pain, or when, without the support of the corset, respiration is impeded. But even in these cases supplementary gymnastic treatment is indispensable. In all other cases the corset is contraindicated, as it seems to have a decidedly injurious influence on the torsion and hump, unless it can be applied in an over-corrected attitude. This is only possible for a few hours at a time, and hence the corset should be worn only part of the day, and never unless it can be constantly supervised by the physician, as otherwise much harm may result.

Curvature of the Neck of the Femur. M. WAGNER.—This comprehensive review of the present status of the question of coxa vara concludes that the prognosis—with appropriate treatment—can be considered favorable. Many apparently severe cases recover without an operation. The chances of spontaneous recovery are greater the more the subjective symptoms predominate. The painful stage may last for months or years. The degree of subjective disturbances and interference with function during this acute stage are no criteria for the necessity of an operation. This can be determined only by examination in narcosis. If there is freer movability in narcosis it is too early for osteotomy, although a tenotomy may be needed to correct the contraction of the adductors. Cases resisting prolonged massage and exercise are treated by Hoffa with subtrochanteric, oblique osteotomy, which has proved extremely successful and harmless in his experience. The oblique incision allows considerable stretching and separation of the two ends of the bone. It diminishes the actual contraction, renders ample abduction possible and banishes Trendelenburg's symptom almost entirely. By the lowering of the trochanter the abducent elements of the pulling force of the muscles passing from the pelvis to the trochanter are materially increased. Resection is necessary only in extreme cases. Suitable after-treatment is indispensable.

Tabetic Arthropathy. A. E. AHRENS.—Three severe cases are described of deformity of the knee occurring in the course of tabes on a syphilitic foundation. They proclaim the benefits of conservative treatment and that the splints applied not only allow the patients the use of their limbs, but also arrest the progress of the joint affection.

Nordiskt Med. Arkiv (Stockholm), November.

Treatment of Psoriasis With Injections of Arsenic. ALMKVIST AND WELANDER.—Intravenous injections undoubtedly exert a powerful therapeutic action on the efflorescence of psoriasis, but this effect is transient and does not prevent its reappearance. They also produced disagreeable by-effects, pigmentation, eruptions, stinging, itching, numbness or other nervous symptoms in the twenty-seven cases in which the method was given a thorough trial by the writers. They consider it a failure and have abandoned it.

Chronic Non-Tuberculous Peritonitis With Effusion. K. G. LENNANDER.—Besides the four cases described at length, others on record are reviewed. The conclusions are that simple, chronic peritonitis is a frequent complication of the various affections accompanied by ascites, and that it is the cause of the latter. Chronic peritonitis may be cured by laparotomy, even when it is complicated by other affections. Four laparotomies were necessary to complete the cure in one of Lennander's cases, and the patient has been in good health since, more than a year. Operative treatment proved ineffectual in another case with renal and cardiac complications.

Change of Address.

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J. E. Asbury, 187, to 102 W. Mitchell St., Atlanta Ga.
C. M. Blair, Rosenberg, to Lufkin, Tex.
H. C. Bliss, 413, to 455 Woodland Ave., Cleveland, Ohio.
L. P. H. Bahrenburg, Liverpool, Eng., to Asst.-Surgeon U. S. Marine-Hospital Service, Barge Office, New York City.
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Paul W. Kirkpatrick, Nashville, to Jonesboro, Tenn.
J. W. McLaughlin, Galveston, to 700 Congress Ave., Austin, Tex.
E. V. Murphy, Fall River, Mass., to 50 Pelham St., Newport, R. I.
E. S. McKee, 10 W 7th, to 2112 Grand St., Cincinnati, Ohio.
J. L. McLaren, Saginaw, Mich., Eureka, Cal.
C. L. Maxwell, Forestburg, to Myra, Tex.
R. F. Palmer, Marquette, Mich., to Cook County Hospital, Chicago.
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S. R. Turner, Dyer, to Hammond, Ind.
H. E. Truax, Pinck Bldg., to 216 E. Monroe St., Springfield, Ill.
A. N. Williamson, New London, Conn., to Dobbs Ferry, N. Y.
T. C. Walton, Brooklyn, N. Y., to 30 Maryland Ave., Annapolis, Md.
W. C. Welburn, 209 Russell, to 420 Woodland St., Nashville, Tenn.
Elizabeth White, Parkersburg, W. Va., to 2008 5th Ave., Birmingham, Ala.
O. A. Young, Houston, Tex., to Cedar Rapids, Iowa.

New Patents.

Patents of Nov. 20 and 27, of interest to physicians, etc.:

661,340. Vaginal syringe. John A. Bell, Naperville, Ill.

662,223. Medicinal boot or shoe. Harvey F. Crawford, Brocton, Mass.

662,278. Aural battery. Christopher W. Levalley, Milwaukee, Wis.

662,150. Throat shield. Wm. W. McCormick, Santa Rosa, Cal.

662,083. Exercising and massage device. Bernard A. McFadden, New York City.

662,585. Manufacturing diethyl-ether. George H. Benjamin, New York City.

662,588. Device for measuring and administering medicines. Wm. O. Bloom, Worcester, Mass.

662,487. Invalid-bed. Wm. H. Donaldson, Chicago.

662,716. Intrauterine battery. John G. L. Gaedeke, New York City.

662,627. Sanitary dispenser for plastic substances. Joseph F. C. Luhan, New York City.

662,830. Speculum. John Sklar, New York City.

662,658. Instrument for injecting gas into the human body. Emile Sterne, Paris, France.

662,659. Suspensory bandage. Lynn C. Thompson, Darlington, Ind.

662,477. Lifting device for invalids. Charles B. Ulrich, Duluth, Minn.

Queries and Minor Notes.

TIME-LENGTH OF DEAD FETUS IN UTERUS.

MINGO, IOWA, Nov. 5, 1900.

To the Editor:—Please give me references as to where I can find something on the length of time a fetal body may remain in the uterus after its death, with or without dangerous results to the mother; and oblige. W. W. G.

ANS.—We are unable to give the reference desired, and do not know of any statement of the absolute limit of time applicable for all cases. A lithopodian may possibly be carried indefinitely in a functionally inactive uterus.

SECRETARY'S ADDRESS WANTED.

CHICAGO, Dec. 3, 1900.

To the Editor:—Please give name and address of the secretary of the Medical Examining Board of North Carolina. Yours, respectfully, W. T. H.

ANS.—J. Howell Way, M.D., Waynesville.

COMMISSIONS AGAIN.

WALLA WALLA, WASH., Nov. 29, 1900.

To the Editor:—Is it a violation of the code of medical ethics for a physician living in the country or small town, having no hospital advantages to send patients to hospitals or sanitariums, where they can have the advantage of surgical skill and experience, likewise hospital care and treatment, and receive as a compensation for his trouble and expense a portion of the fees received by the hospital, sanitarium, or surgeon who takes charge of his patients? Will physicians sending or receiving patients and dividing the fees violate the code of medical ethics? Respectfully,

N. S. B.

ANS.—Questions like the above are propounded all too frequently. The code of ethics does not especially forbid many things that are against good morals, for the reason that the raising of such questions was not expected from those that had imbibed its spirit. Division of fees implying, as it necessarily does, a greater charge to the patient than otherwise would have been made, is certainly contrary to the spirit of the code, which is supposed to govern a profession that cultivates the highest moral principles in its dealings with its clients and in the professional interest of its members with each other. A physician is not expected to obtain compensation for trouble or expenses incurred for a patient who is able to pay, from a third party surreptitiously overcharging him, nor is a sanitarium or specialist supposed to take more than its or his special services are worth, to divide with anyone bringing to them business. If Dr. A. is at any trouble or expense in sending B. to Dr. C., let Dr. A. collect for it directly from B.; it is as unethical for him to expect Dr. C. to collect such compensation for him without B.'s knowledge as it is for the latter to attempt to avoid its payment. The honor of the profession is compromised by even the suspicion of such practice.

QUACK DOCTORS IN AUSTRALIA.

Under the above title the *British Medical Journal* publishes some remarks on quack doctors from the *Bulletin*, of Sydney, Australia, which are so good and so unique in some of the suggestions made that they will bear another reproduction. The idea of the state assisting in the support of a physician where the population is not large enough to support one is not as absurd as it might at first appear.

It is not suggested that the quack should be merely prohibited from calling himself a doctor, but that he should be prohibited from existing at all and utterly blotted out. There is much to be said for the proposition. The qualified practitioner is sometimes an incapable fool, but the very worst of him must know a good deal of his trade, or he could not have passed his examination. The unqualified man may sometimes know a good deal, but as a rule the best of him remains unqualified because he does not know enough to be the worst kind of a qualified man. All the same the unqualified man is sometimes better than nobody at all, though very often he is worse than nobody, and kills his patients faster than they would have died if left alone; but on the strength of the fact that he is sometimes better than nobody, a section of the press denounce the medical bill in the alleged interest of very far back residents, and asks if it is humane in places where there is no doctor to prevent the bush quack doing his best, or to prohibit the chemist, who probably knows a little medicine, from prescribing. This looks plausible on the surface, but there is not much underneath it. A place that can support a chemist generally has a doctor; also there is no reason why a combined order of doctor and chemist should not exist. As for the quack, who is not a chemist, he eats and drinks as much, and wears as many boots as the qualified man, so a place which cannot support a doctor cannot support a quack. Where there is a quack and no qualified doctor, the reason generally is that the place cannot support both of them, and the quack gets there first; if he were shifted, a qualified man would take his place. As for the very poor and unpopulous places, where there is neither doctor, nor quack, nor chemist, and a little precarious botching at the human frame is done by the storekeeper, or the blacksmith, they are merely a proof that the state has failed in its duty. Even in the poorest and emptiest regions the state sees that appliances for arresting, and imprisoning, and hanging the public are not wanting. It is equally essential that appliances for healing them are not wanting. In every settled district the state should see that a doctor is supplied, and where the population is below a certain figure—the figure which careful inquiry shows to be a minimum that can support a medical man—a sober, capable medico should be supplied, and subsidized in proportion to the deficiency in population. It is as essential to have a doctor to so many square miles, in order that no single inhabitant shall be absolutely out of reach of medical aid, as to have a policeman so that no inhabitant shall be denied the privilege of imprisonment. It is quite as cheap to preserve the existing population in this way as to import new population under an assisted emigration policy—cheaper, perhaps, when the saving in tombstones and grave-digging is considered.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Nov. 22 to 28 inclusive:

George E. Bushnell, major and surgeon, U. S. A., relieved from duty in the office of the surgeon-general, Washington, D. C.; leave of absence granted on account of disability.

Timothy F. Goulding, acting asst.-surgeon, from Washington, D. C., to Boston, Mass.; on leave of absence.

James H. Hepburn, acting asst.-surgeon, previous orders revoked; he is relieved from duty at the General Hospital, Fort Bayard, N. M., and will proceed to Fort Apache, Ariz., for post duty.

John Van R. Hoff, major and surgeon, U. S. A., relieved from further duty in the Department of the Lakes; on the expiration of his present leave of absence he will report at Washington, D. C., for duty in the office of the surgeon-general.

H. Newton Kierulff, acting asst.-surgeon, former orders revoked; he is relieved from duty in the Department of Alaska and will proceed to Seattle, Wash., for duty as transport surgeon on the *Kintuck*.

Samuel O. L. Potter, major and surgeon, Vols., honorably discharged from the service of the United States, on tender of his resignation, to take effect Dec. 1, 1900.

Erwin I. Shores, acting asst.-surgeon, former orders relieving him from duty at Fort Caswell, N. C., revoked.

Dudley W. Welch, captain and asst.-surgeon Vols. (recently appointed from first lieutenant and asst.-surgeon, 43d U. S. V. Inf.), with rank from Nov. 12, 1900, is assigned to the 43d U. S. V. Inf.

Navy Changes.

Changes in the Medical Corps of the navy for the week ended Dec. 1, 1900:

Asst.-Surgeon C. R. Burr, ordered to the *Monongahela*, Dec. 1.

Asst.-Surgeon R. K. McClanahan, detached from the navy yard, Washington, and ordered to the *Indiana*, Dec. 1.

P. A. Surgeon R. Spear, detached from the naval hospital, New York City and ordered to the *Buffalo*, Dec. 5.

Asst.-Surgeon R. B. Williams, ordered to duty at the naval hospital, New York City, Dec. 5.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service, for the seven days ended Nov. 29, 1900:

P. A. Surgeon J. B. Stoner, bureau letter of Nov. 20, directing P. A. Surgeon Stoner to assume temporary command of the service at Norfolk, Va., amended, and directed to assume command of the service at Norfolk, relieving P. A. Surgeon J. M. Eager.

P. A. Surgeon J. M. Eager, relieved from duty at the port of Norfolk, Va., to take effect Nov. 30, 1900.

Asst.-Surgeon W. C. Hobdy, granted leave of absence for seven days from Nov. 25.

Asst.-Surgeon W. C. Billings, to proceed to Clarksburg, W. Va., for special temporary duty.

Asst.-Surgeon F. J. Thornbury, granted leave of absence for four days.

Asst.-Surgeon Dunlop Moore, to proceed to Port Townsend quarantine, and report to medical officer in command for duty.

Asst.-Surgeon B. H. Earle, to proceed to Columbia River quarantine, and report to medical officer for duty.

Asst.-Surgeon J. D. Long, to proceed to Baltimore, Md., for temporary duty during absence of Asst.-Surgeon Billings.

Asst.-Surgeon B. J. Lloyd, to proceed to San Francisco quarantine and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon C. C. Pierce, relieved from duty at the Tortugas quarantine station, and directed to proceed to Key West, Fla., and report to medical officer in command for temporary duty.

A. A. Surgeon W. C. Bailey, granted leave of absence for three weeks from Nov. 14.

Hospital Steward F. L. Brown, relieved from duty at Cape Charles quarantine, and directed to proceed to Boston, Mass., and report to the medical officer in command for duty and assignment to quarters.

PROMOTION.

Asst.-Surgeon L. E. Cofer commissioned as passed assistant surgeon.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended Nov. 30, 1900:

SMALLPOX—UNITED STATES.

Alaska: Nov. 24, Skaguay, 1 case; Whitehorse, 1 case.
Kentucky: Lexington, Nov. 17-24, 1 case.
Louisiana: New Orleans, Nov. 17-24, 1 case.
Michigan: Detroit, Nov. 17-24, 1 case.
Minnesota: Minneapolis, Nov. 17-24, 3 cases.
Missouri: St. Joseph, Oct. 1-31, 1 case.
Nebraska: Omaha, Nov. 17-24, 3 cases.
New Hampshire: Manchester, Nov. 17-24, 3 cases.
New York: New York, Nov. 17-24, 1 case, 1 death.
Ohio: Cleveland, Nov. 17-24, 23 cases.
Pennsylvania: Nov. 17-24, Pittsburg, 3 cases; Steelton, 2 cases.
Texas: Houston, Nov. 17-24, 17 cases.
Utah: Salt Lake City, Nov. 17-24, 31 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, Nov. 3, 1 death.
Bohemia: Prague, Oct. 27-Nov. 3, 19 cases.
British Columbia: Nanaimo, Nov. 23, 12 cases.
Ecuador: Guayaquil, Sept. 8-30, 33 deaths.
Egypt: Alexandria, Nov. 5, 1 case.
England: Southampton, Nov. 3-10, 3 cases.
France: Paris, Nov. 3-10, 11 deaths.
Greece: Athens, Oct. 27-Nov. 3, 3 cases.
Gibraltar: Nov. 11, 1 case.
India: Oct. 20-27, Calcutta, 1 death: Madras, 3 deaths.
Italy: Naples, Nov. 14, 5 cases, 1 death.
Mexico: Mexico, Nov. 4-11, 1 death.
Russia: Moscow, Oct. 27-Nov. 3, 7 cases, 2 deaths: Odessa, Nov. 3-10, 16 cases, 7 deaths; St. Petersburg, Oct. 27-Nov. 3, 7 cases, 1 death; Warsaw, Oct. 27-Nov. 3, 30 deaths.
San Domingo: Puerto Plata, Nov. 10-17, 3 deaths.
Scotland: Glasgow, Nov. 9-16, 22 cases.
Spain: Corunna, Nov. 3-10, 1 death.

YELLOW FEVER.

Cuba: Matanzas, Nov. 19, 3 cases.
Mexico: Vera Cruz, Nov. 10-17, 9 cases, 1 death.

CHOLERA.

India: Bombay, Oct. 23-30, 10 deaths: Calcutta, Oct. 20-27, 8 deaths: Madras, Oct. 20-27, 13 deaths.
Straits Settlements: Singapore, Sept. 22, 1 case, 1 death.

PLAGUE.

China: Hongkong, Oct. 15-22, 3 cases, 3 deaths.
Egypt: Alexandria, Oct. 22-29, 1 case.
India: Bombay, Oct. 30, 85 deaths: Calcutta, Oct. 20-27, 7 deaths; Madras, Oct. 20-27, 1 death.
Japan: Nov. 2, Kobe, 2 cases: Osaka, 11 cases.
Madagascar: Tamatave, Oct. 8-15, 4 cases, 4 deaths.
Straits Settlements: Penang, Oct. 16, 2 deaths.

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